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SEPTEMBER, 1936.

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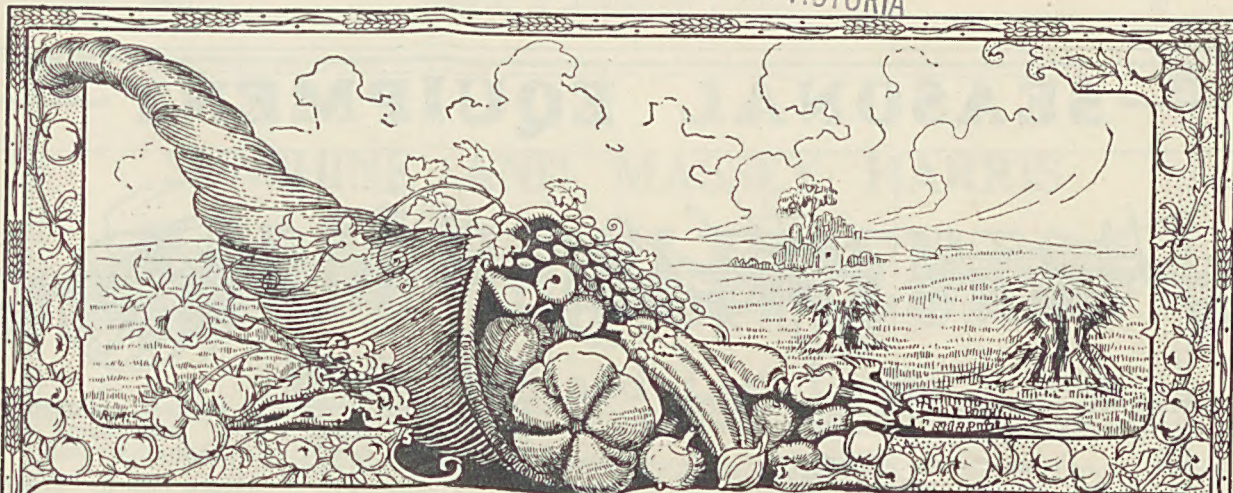
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Contents.

SEPTEMBER, 1936

	PAGE
Standard Herd Test—	
Report for the year 1935-36 W. J. Yuill	433
Herd Averages	454
Records for the Fourth Quarter	486
"Long Distance" Standard Test Cows	503
Tobacco Investigations in Victoria, 1935-36 W. J. B. McDonald, B.Agr.Sc.	456
Butter Production and Export	463
Sheep Owners Protection Act—Prosecution for Offence	463
Potato Diseases of Victoria Biological Branch	464
State Research Farm, Werribee—Farmers' Field Day	481
Tubercle-Free Herds	482
The Pastures of Australia (Book Review)	482
Importation of Poultry and Stock into Tasmania by Aeroplane	482
Dairy Produce Supplies	483
Orchard and Garden Notes E. E. Pescott, F.L.S.	484
Cronin Memorial Horticultural Scholarship	485

Issued under the direction of the Hon. E. J. Hogan, M.L.A., Minister of Agriculture.

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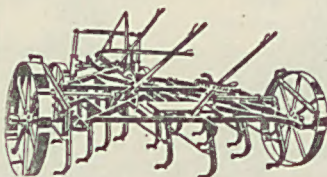
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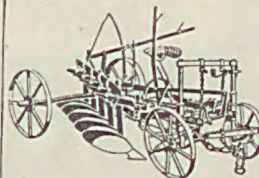
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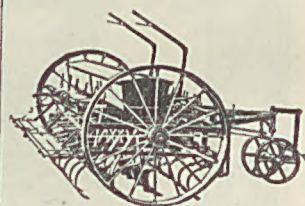
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INDEX TO ADVERTISEMENTS

FRONT SECTION

Blyth Chemicals Ltd.	...	inside cover
Commonwealth Serum Laboratories	...	vi
Evans, Thos. Pty. Ltd.	...	inside cover
Gippsland & Northern Co-operative Coy. Ltd. (Separators)	iv	
Goodyear Tyres	...	opp. p. 440
International Harvester Coy. of Australia Pty. Ltd. (Tractors)	v	
Leggo, Victor, & Farmers Ltd.	...	iv
McKay Massey Harris Pty. Ltd.	...	iii
Robinson, T. & Coy. Pty. Ltd.	...	ii
Vacuum Oil Coy. Ltd.	...	opp. p. 441

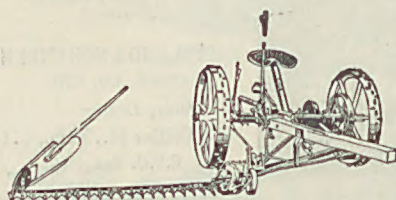
BACK SECTION

Australian Cement Ltd.	...	inside cover
Cockbill, J.	...	x
C.O.R.	...	ix
Dunlop-Perdriau Rubber Coy. Ltd.	opp. p. 496	
Fordson Tractors	...	outside cover
Gippsland & Northern Co-operative Coy. Ltd. (Seeds)	vii	
International Harvester Coy. of Australia Pty. Ltd. (Separators)	...	opp. p. 497
Lysaght Bros. & Coy. Ltd.	...	x
McGregor Wheel Grip and Engineering Pty. Ltd.	...	vii
State Savings Bank	...	xi
Stud Breeders' Cards	...	viii
Trehwella Bros. Pty. Ltd.	...	viii
Victorian Railways	...	xi

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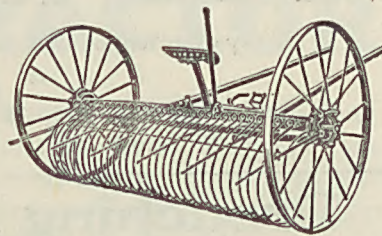
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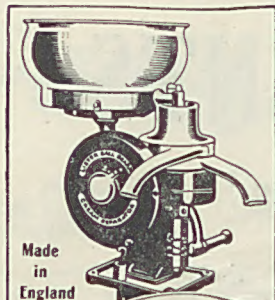
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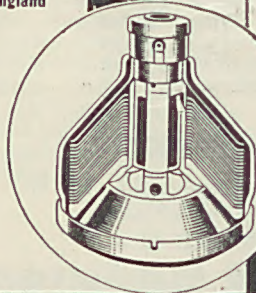
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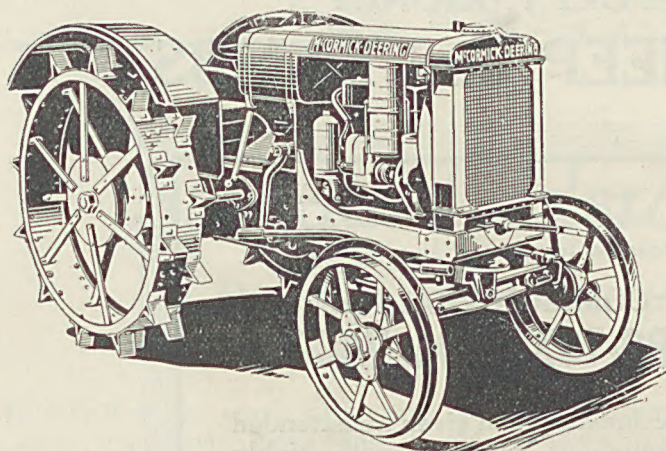
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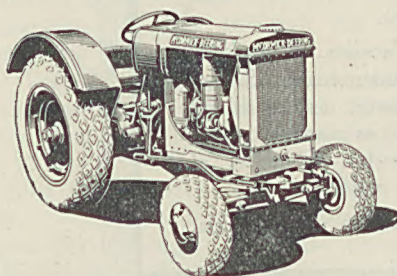
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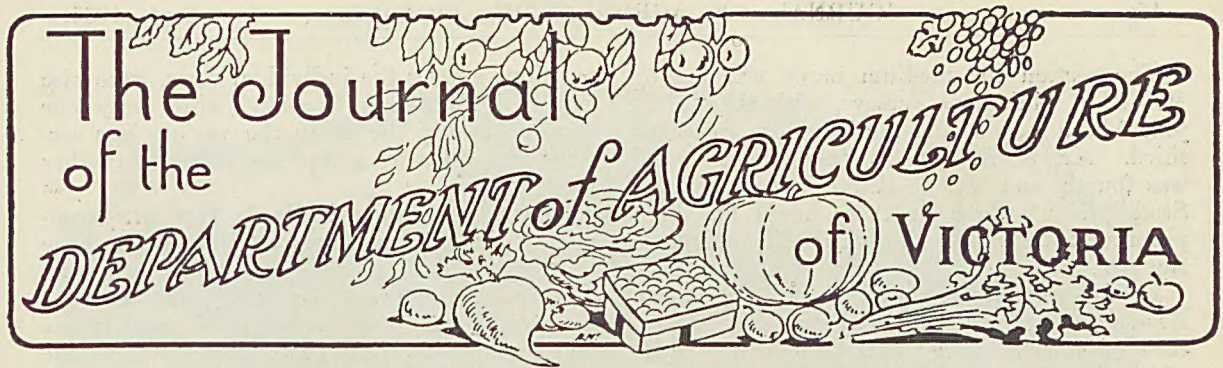
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Standard Herd Test

Report for the Year 1935-36

By W. J. Yuill, Acting Senior Herd Tester

A REVIEW of the year's work shows that some remarkable production records were made, despite the very unfavorable seasonal conditions for pasture growth and summer crops. This was particularly true of the leading herds, some of which have occupied leading positions in the herd averages of the Standard Herd Test for a great many years. Nine of the herds averaged more than 400 lb. butter-fat without allowances, while those of Mr. R. M. Chirside, N. H. Enders, and O. Ronalds all averaged more than 500 lb. actual butter-fat. Mainly through the excellent performance of the junior cows, the Standard Herd Test prize again goes to Mr. Chirside's Mornmoot herd, for the record-breaking performance of 613.99 lb. butter-fat (with all allowances).

In the 1934-35 test, Mr. O. Ronalds' herd was placed second, although it had the highest actual butter-fat average. On this occasion, Mr. N. H. Enders' Reserve Champion Herd exceeded the Mornmoot average by 11 lb. butter-fat per cow, with a one-cow larger herd. However, when all allowances were added, the Mornmoot herd secured the championship by 0.3 lb. of butter-fat per cow. Needless to say, there has never previously been so close a finish for the prize, and for all practical purposes the performances of the herds may be considered equal. The evenness of the herds is best shown by the fact that each had a leading representa-

tive in three of the classes. Mr. Enders had no less than eight animals placed in the junior sections, while Mr. Chirside had five, including the champion cow, "Mornmoot Princess Madeira," the leader of the senior three-year-old class.

Mr. O. Ronalds' Jindivick herd maintains its high reputation, although it has fallen back from second to third place. It is represented in the classes by "J. Heroine 4th," 622.21 lb. butter-fat, a high producing four-year-old, and "J. Northern Duchess," a 551-lb. butter-fat junior three-year-old.

All of the herds with a yield of more than 500 lb. actual butter-fat were in the section for herds between ten and fifteen cows; the herds of F. A. Williams, of Bamawm, and Messrs. T. M. Noble and Son, of Maffra, each exceeded 500 lb. butter-fat when allowances were added, as did also Mr. P. J. Maloney's Belgonia herd, and Mr. J. D. Read's Springhurst herd.

In the small herd section, the fourteen Ayrshires owned by the Dookie Agricultural College put up a particularly fine performance, as did also the eighteen Friesians at the Werribee Research Farm in the section for herds of 17 to 25 cows. In the latter section, the "Yarra View" Guernsey herd of 20 cows makes its first public appearance, although for a considerable time it has been under private test.

The section for medium herds was led by Mr. P. J. Maloney's Jerseys, with the "Ban-yule" herd second, and the Werribee Friesians third. Mr. A. A. Broad's "Grangelea" herd was fourth, and Mr. T. Harvey's "Jerseyholm Stud" fifth. Each of these herds has been prominent in many Standard Test Annual Reports.

In the section for large herds, Mr. J. D. Read's Jersey herd leads with the excellent record of 453 lb. actual butter-fat. His herd of 27 includes some remarkable young cows by "Bellefaire Seabourne Successor."

Mr. W. K. Atkinson's famous "Dairy Short-horn" herd of 39 individuals occupies second place with the splendid performance of 468 lb. butter-fat (with allowances), while "The Selsey," "Clarendon Eyre," and "Maneroo" Jersey herds are also prominent.

The 1935-36 Standard Herd Test brings the Jersey breed into greater prominence than ever, for out of the leading six places in the three sections for herds, no less than fourteen positions were filled by this breed. The Champion and Reserve Champion herds, and similar

positions among the individual cows, were also captured by Jersey breeders, while only one position out of the 21 in the various age sections was filled by a representative of another breed.

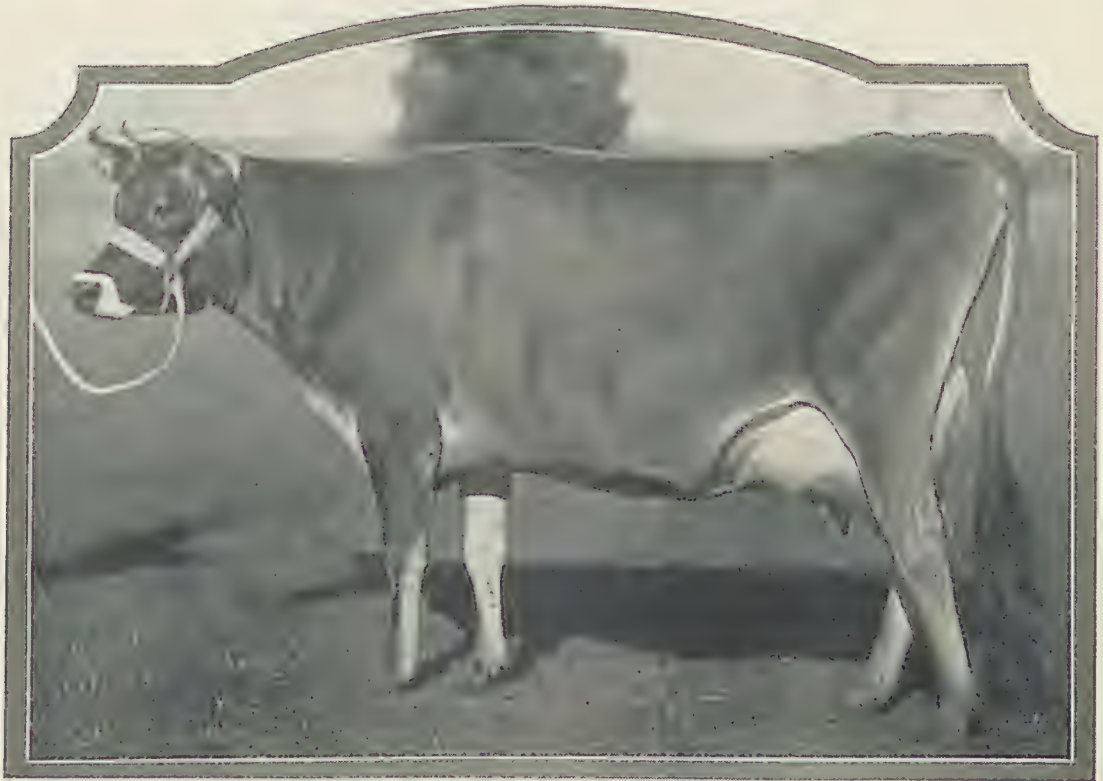
Since the Standard Herd Test was commenced, in 1912, no fewer than 594 herds have been entered, and of this number 377 have been Jerseys. As a breed, the Jersey has been the most extensively tested, and as a breed it has had the greatest measure of success among the cream suppliers to the many butter factories throughout the State. This fact is evident from the statistics of the grade herd recording work of the V.U.C.T.A., which shows that more than 75 per cent. of the 2,214 pure-bred bulls in use are of the Jersey breed. If reference be made to the list of long-distance producers in the Standard Test, it will be seen that 73 per cent. of the number are of this most extensively tested breed.

The Champion Cow.

This is the first occasion in the history of the test that the champion cow has been a



Portion of Mr. R. M. Chirnside's Champion Herd.



Mr. R. M. Chirnside's Champion Cow, "Mornmoot Princess Madeira," 773 lb. butter-fat.

three-year-old, and probably never before in Australian Herd Test history have the champion cow and her junior two-year-old daughter been junior section leaders in the same year. Mr. Chirnside's champion cow, "Mornmoot Princess Madeira," first calved at one year and ten months, and in the subsequent test period produced 424 lb. butter-fat. She was senior two-year-old class leader in 1934-35, with a yield of 572 lb., and, calving again at three years eight months, went on to produce 773 lb., and to win the honour of Champion Standard Test Cow. "Mornmoot Princess Madeira" has recently completed another fine lactation as a senior four-year-old. The excellent qualities of the Princess Madeira family are best shown in the short pedigree set out on the next page.

From this it will be seen that "Mornmoot Princess Madeira 3rd" has exceeded her dam's excellent junior two-year-old record by 127 lb., and earned the distinction of class leader for this section, with her dam's half-sister, "Mornmoot Princess Madeira 2nd" in third position with a fine junior two-year-old record of 480

lb. This is nearly 60 lb. higher than the champion cow yielded at the same age.

Reference to the breeding of "Mornmoot Princess Madeira 3rd" shows that she is from a grand-daughter of the imported bull "Masterpiece," while her sire is a grandson of that great bull, her paternal grandsire being "Werribee Northern Masterpiece," who has the highest "Equal Parent Index" yet worked out in this State. Her sire, "Staghorn Larkspur's Majestic," is a son of "Werribee Northern Masterpiece." In passing, it is interesting to note that Scott, an English investigator, concluded that when the son of a proven bull was mated to a proven high-producing cow, the issue in 80 per cent. of cases was a good producer. This is borne out in the case of "Mornmoot Madeira 3rd," for her dam, though only a senior three-year old, is the champion cow of the State. The dam of the champion cow did not reach 300 lb. as a junior two-year-old, although her half-sisters, "Stella Princess" and "Princess Satisfaction" are great producers.

Where there were so many notable producers, it is not possible to deal with each on its merits. A reference to the list on page 442 of cows yielding more than 600 lb. butter-fat will supply the name of the breeder, together with the name and yield of each cow.

Before passing to the members of the Reserve Champion herd, however, reference should be made to Mr. P. J. Maloney's "Belgonia Eileen 2nd," a daughter of the imported bull "Duke of the Lake." Her 426 lb. junior two-year-old effort has been improved upon to a 561-lb. record, which placed her second in the junior three-year-old class, in which Mr. Enders' Jersey, "The Wattles Silvermine," occupies the leading position with 609 lb. butter-fat. The latter's dam, "Banyule Silvermine 61st," is also a great producer, as is shown by her yield of 691 lb. in the previous year. Another of Mr. Enders' Banyule-bred cows to do well is "Banyule Silvermine 77th," whose record of 615 lb. placed her second in the senior four-year-old class to her herd mate, "Rintoul View Moleen." Two years ago, "Moleen" was class leader as a senior two-

year-old, with a record of 588 lb. butter-fat. On this occasion it is increased to 676 lb. Messrs. Vaughan Bros'. "Lynroy Graceful" was third in this class with 566 lb. butter-fat. In "Rintoul View Moleen," 676 lb., "Rintoul View Petal," 624 lb., and "Rintoul View Rosemary," 579 lb. butter-fat, Mr. Enders has secured a remarkably high producing trio; each earned a place in its respective class. Mr. Enders has other noted performers in the "Joy" family. "The Wattles Joy" exceeded 600 lb. butter-fat when she headed the senior two-year-old class in 1933. In the test under review, her daughter, "The Wattles Joy 3rd," by "The Wattles Biplane," leads the senior two-year-old class with a record of 567 lb., and is closely followed by her paternal half-sister, "The Wattles Duchess 5th," 552 lb. butter-fat, "Mornmoot Clementine" being close up with 549 lb. butter-fat. A further member of the "Joy" family appears in the junior two-year-old class, her 496 lb. effort bringing her into second position. The story of Mr. Enders' success is largely the story of one herd-sire,



Portion of Mr. N. H. Enders' Reserve Champion Herd.



Two High Producing Members of Mr. Enders' Herd. Left, Rintoul View Moleen, 676 lb.; and below, The Wattles Joy 3rd, top of the senior three-year-old class with 567 lb. butter-fat.



"Banyule Triplane," whose influence is seen in the accompanying short pedigree of "The Wattles Biplane."

The extraordinary high production of the junior cows in the two leading herds, those of Messrs. Chirnside and Enders, resulted in their filling thirteen of the eighteen positions in the junior classes. In Mr. Enders' herd, five of these are closely bred from the "Banyule" and "Springhurst" herds that were dealt with in the 1934-35 Annual Report, and the "Belgonia" herd, which on three occasions has been champion herd of the test.

The outstanding animal in the history of "The Wattles" stud appears to be "Banyule Triplane," whose dam, "Hawthorn 10th of

Banyule," exceeded 500 lb. butter-fat as a junior three-year-old. "Triplane" went to the "Rintoul View" stud, from whence Mr. Enders purchased "Moleen," "Petal," and "Rosemary," each is a consistent milker, and has a remarkably high test. When "Triplane"

SHORT PEDIGREE OF THE WATTLES BIPLANE.

The Wattles Biplane (8758). Sire of—
The Wattles Joy 3rd, Senior 2-year old,
567 lb. butter-fat
The Wattles Duchess 5th, 552 lb. butter-fat
The Wattles Seville 2nd, 463 lb. butter-fat.

Banyule Triplane (5753). Sire of—
Rintoul View Moleen, 676 lb. butter-fat,
Junior 4-year old
Rintoul View Petal, 624 lb. butter-fat
Rintoul View Rosemary, 579 lb. butter-fat

Peggy of Belgonia (17799)
Junior 2-year old, 8,044 lb. milk; 5.22
per cent. test; 420 lb. butter-fat
Senior 2-year old, 9,974 lb. milk; 5.27
per cent. test; 525 lb. butter-fat
Junior 4-year old, 10,974 lb. milk; 5.19
per cent. test; 570 lb. butter-fat
Mature, 10,205 lb. milk; 5 per cent.
test; 510 lb. butter-fat

Wotton Airman (Imp.)

Hawthorn 10th of Banyule
Junior 3 year-old—

Milk.	Test.	Butter-fat.
lb.	%	lb.
8,857	5.92	524

Prince of Belgonia, by Hedge of Banyule,
ex Czarina of Springhurst, a 537 lb.
butter-fat cow

Beauty of Bonshaw, averaged 401 lb.
butter-fat on her four junior lactations

Some Leading Cows



Left, Mr. R. M. Chirnside's Jersey, "Werribee Princess Satisfaction," 712 lb. butter-fat.



Top right, Mr. N. H. Enders' Jersey, "Rintoul View Petal," 624 lb. butter-fat.

Top left, Mr. N. H. Enders' Jersey, "The Wattles Silvermine," 609 lb. butter-fat.

Centre, Three leading members of Capt. A. E. T. Payne's "Yarra View" Guernsey stud.

Below, Some members of Mr. O. Ronalds' Jersey herd.



Above, Dookie Agricultural College's Ayrshire herd, average 485 lb. butter-fat.



Left, Capt. A. E. T. Payne's Guernsey, "Rose Gem of Maple Lodge," 608 lb. of butter-fat.



Right, "Jerseyinn Edith 2nd," owned by Mr. E. J. Vagg—678 lb. butter-fat.





Mr. N. H. Enders' Jersey, "*Banyule Silvermine 77th*," 615 lb. butter-fat.

was mated with "Peggy of Belgonia," a heavy-milking junior cow with a 570-lb. junior four-year-old record, the issue was "The Wattles Biplane," whose junior two-year-old daughters have exceeded 500 lb. butter-fat on their first calf.

Just how much credit should be given to Mr. Enders for feeding and management cannot be stated in a figure—that it is considerable may be granted. However, a glance at the animals close up in the pedigree of "Biplane" shows that he was bred along the lines on which one would like to see many more bulls bred. Old "Beauty of Bonshaw" was a noted cow in Mr. Maloney's herd; so, too, was old "Czarina of Springhurst." "Prince of Bel-

gonia" and "Hedge of Banyule" were both extensively used in Standard Test herds, and there are many records of over 500 lb. butter-fat from their daughters. This is equally true of "Wotton Airman" (imp.).

Management of Leading Herds.

At times inquiries are made concerning the methods of feeding the Standard Test herds. It can be taken for granted that these herds are well fed and managed, in addition to being highly developed from selected strains of the breed.

The test cows in the champion herd of Mr. Chirnside are rugged whenever it is considered advisable; they also receive minerals as well as a concentrate mixture of 1 lb. to each 3 to 4 lb. milk. The mixture is usually one of equal parts of bran, crushed oats, and linseed meal. An excellent system of rotational grazing is secured from 22 top-dressed paddocks of pasture. Chaffed meadow hay is also fed at the bails.

Mr. N. H. Enders' farm is situated at Stanhope, in the Goulburn Valley. The herd is grazed on irrigated pastures and lucerne. During winter, the bail feeding is increased to 8 lb. chaff, 3 lb. bran, 4 lb. crushed oats, and 1 lb. Meggitt's meal. A mineral mixture is



Two of Mr. J. D. Read's productive Jerseys, with the imported sire Sybil's Seabourne Successor.

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considered worth while, and the test cows are rugged when necessary.

Mr. P. J. Maloney's well-known "Belgonia" herd enjoys similar conditions to that of Mr. Enders. The farm is at Tongala, in the Goulburn Valley irrigation area. The test cows are grazed on top-dressed pastures and lucerne during the irrigation season, when 4 lb. bran and 1 lb. Meggitt's meal are fed daily. During the winter months, two kerosene tins of chaff are fed daily, with a concentrate mixture of 2 lb. bran, 2 lb. crushed oats, and 1 lb. Meggitt's meal. The cows are also rugged and a mineral mixture is used.

Mr. J. D. Read's Jersey stud is at Springhurst, where the rainfall is but 22 inches. Even in this low rainfall, the pastures have responded remarkably to top-dressing. During the summer, when the pastures are dry, the test cows receive up to 8 lb. bran and 1½ lb. cotton-seed daily. During the remainder of the year the bran is reduced to 4 lb. The cows are rugged, and a mineral mixture given.

On the majority of farms on which the leading herds are located the management includes the feeding of some form of concentrate, while quite generally it is considered good practice to use a combination of these. The use of high protein foods, like cotton-seed or linseed meal, is favoured on most farms. Usually the management includes the rugging of the test cows during cold nights and throughout the winter months. This, however, is not the case with Mr. W. K. Atkinson's Willow Park Dairy Shorthorns, where rugging of cows is not favoured, and bran is the only supplementary food used. On some stud farms the test cows are not rugged, nor do they receive any other food than that which is grown on the farm.

The leading cows in the various classes and the cows that yielded more than 600 lb. butter-fat are set out in the accompanying lists. The average yields of the leading herds are set out on page 454 and the individual yields for the fourth quarter of the test on page 486.

A SURVEY OF 24 YEARS' RECORDS OF THE STANDARD HERD TEST WITH TABULATED DATA OF ALL RECORDS OVER 300 LB. BUTTER-FAT, 1912 TO 1936.

Name of Breed.	Total Tested Herds.	Number of Tested Cows.	Percentage in Total Number Tested Herds.	Percentage of Records over 400 lb. Butter-fat.	Details of 17,620 Records Exceeding 300 lb. Butter-fat.						Under 300 lb.
					Over 800 lb. Butter-fat.	701 lb. to 800 lb.	601 lb. to 700 lb.	501 lb. to 600 lb.	401 lb. to 500 lb.	301 lb. to 400 lb.	
Jersey	377	7,778	55.66	37.0	1	11	107	805	3,748	7,981	..
Ayrshire	120	4,108	29.39	16.4	..	..	7	40	350	2,033	..
Friesian	43	956	6.84	42.	2	12	50	127	327	711	..
Red Poll	20	558	3.99	21.7	..	1	..	14	122	494	..
Dairy Shorthorn ..	18	298	2.13	41.0	..	4	9	36	132	261	..
Australian Illawarra Shorthorn ..	9	175	1.25	18.0	..	..	..	1	25	120	..
Guernsey	6	98	.70	.23	..	..	1	5	14	69	..
Totals	593	13,971	..	..	3	28	174	1,028	4,718	11,669	12,380

In addition to the above, a small herd of Dexter Kerries was tested for a short period. In round figures some 30,000 records have been made by the 13,971 tested cows. While the Jersey has an excellent showing in every section, the Friesians and Shorthorns also have very excellent figures and percentages.

Some of the "high" records have been influenced by thrice-a-day milking, and other factors. On the other hand quite a large number of the under 300 lb. records would be made by heifers, others would be by cows withdrawn from test because of accident, disease, sickness or death, and the balance would be made up of inherently low producers and cows badly managed and fed.

In some instances a number of records of over 500 lb. have been made by the same cows. These are shown in the Table of "long distance" producers on page 503.

THE BULL INDEX.

Undoubtedly the great majority of breeders believe in the principle of the progeny test, although their belief may not amount to anything more than a recognition of some unwanted feature apparent in their herd, which



Mr. O. Ronalds' "Somerville Valencia 2nd,"
635 lb. butter-fat.



Dookie Agricultural College's "Dookie Sappho," 564 lb. butter-fat.

they hope to correct by using a sire which possesses the wanted character in a high degree. It is quite a common experience to find breeders critically examining the new-born calf for evidence of the hoped-for improvement,

CLASS LEADERS.

Class.	Name of Cow.	Owner.	Butter-fat.	Breed.
			lb.	
Junior 2	Mornmoot Princess Madeira 3rd	R. M. Chirnside	551.25	Jersey
Senior 2	The Wattles Joy 3rd	N. H. Enders	567.05	Jersey
Junior 3	The Wattles Silvermine	N. H. Enders	608.99	Jersey
Senior 3	Mornmoot Princess Madeira	R. M. Chirnside	773.21	Jersey
Junior 4	Rintoul View Moleen	N. H. Enders	676.15	Jersey
Senior 4	Glengowrie Ray	G. A. Fraser	662.84	Ayrshire
Mature ..	Werribee Princess Satisfaction	R. M. Chirnside	712.37	Jersey

LIST OF COWS YIELDING OVER 600 LB. BUTTER-FAT, 1935-36.

Name of Cow.	Owner.	Breed.	Butter-fat.	Class.
			lb.	
Mornmoot Princess Madeira	R. M. Chirnside	Jersey ..	773.2	Senior 3
Werribee Princess Satisfaction	R. M. Chirnside	Jersey ..	712.3	Mature
Ballara Bonnie	F. A. Williams	Jersey ..	691.3	Mature
*Jerseyinn Edith 2nd	E. J. Vagg	Jersey ..	677.8	Mature
Rintoul View Moleen	N. H. Enders	Jersey ..	676.1	Junior 4
Glengowrie Ray	G. A. Fraser	Ayrshire ..	662.8	Senior 4
Somerville Valencia 2nd	O. Ronalds	Jersey ..	635.3	Mature
Finchley Canary 3rd	T. M. Noble	Jersey ..	635.2	Mature
Ballara Bonnie	F. A. Williams	Jersey ..	633.8	Mature
Rintoul View Petal	N. H. Enders	Jersey ..	624.4	Senior 4
Jindivick Heroine 4th	O. Ronalds	Jersey ..	622.2	Senior 4
*Donside Lydo Lady	J. H. Goddard	Ayrshire ..	621.9	Mature
Banyule Silvermine 77th	N. H. Enders	Jersey ..	614.6	Junior 4
The Wattles Silvermine	N. H. Enders	Jersey ..	608.9	Junior 3
*Rose Gem of Maple Lodge	A. E. T. Payne	Guernsey ..	607.9	Mature
Maneroo Baroness	Dr. R. Mailer	Jersey ..	600.2	Mature

* Yield influenced by thrice-a-day milking.



Some Leading Cows.

Top, Messrs. T. M. Noble and Son's "Finchley Canary 3rd," 635 lb., and Mr. O. Ronalds' "Jindivick Heroine 4th," 622 lb.; below, Mr. F. A. Williams' "Ballara Bonnie," 691 lb., and Mr. R. M. Chirnside's junior two-year-old "Mornmoot Princess Madeira 3rd," 551 lb. butter-fat.

and to hear them speak of a sire which influenced the majority of his progeny in one or more unit characters, either for good or for ill.

While it is true that many breeders believe in the principle of measuring a bull's influence by a comparison of his mates and their daughters, and that they do apply this quite generally to the visible features of colour and conformation, it is also true that they do not apply the principle so keenly to the "un-seecable" characters of milk and butter-fat production. This is evident from the fact that less than 10 per cent. of the registered breeders are testing their cattle, and their definite disregard of the help which can come from the progeny testing, which has its foundation in herd test work.

Are Bull Indices Reliable?

It is said that it is not possible to secure even a reasonable degree of reliability in bull-index work because of the variable conditions under which yields are produced. It is admitted

that there are many factors which affect a cow's yield in any one year, and that there may be a very great difference in the conditions under which a sire's dam and his daughters are tested. Bull-indexing work, however, is based on the average difference in the yields of a bull's mates and daughters—these are usually found on the same farm, and are, therefore, largely affected by the same influences. Sometimes it may happen that the yields of the dams were affected by seasonal influences, which did not similarly affect the yields of their daughters; this difficulty can be largely overcome by utilizing only those yields which occur during a similar period. In practice it will be found that the average of a cow's yields over a number of years will include both good and bad seasons; these will largely cancel out, leaving a reasonably true average. The reliability of the completed index is further increased when the weighted average of all the records of all the mates of a bull is compared with the similar average of all his daughters.

Objection is sometimes made to the use of the age-correction factors for bringing the records of junior cows to a figure representing mature form. It is said that the actual records of some cows do not agree with the computed or anticipated mature yield. This is as might be expected, for there can be only one set of correction factors, which will be true of any one cow, viz.:—The difference in her own yields from year to year. It is possible, however, to fix arbitrary standards for correcting yields which are reasonably true of the mass. Just as life insurance tables, which have been founded after consideration of millions of past lives, give future expectations with a reasonable degree of accuracy, so investigators have found that an average two-year-old heifer will increase in her yield from year to year by certain amounts.

It is true that a junior cow usually enjoys a high degree of health, that her udder is usually sound, and her digestive apparatus unimpaired, as compared with later life, when disease and accident of one or more of her organs may prevent a junior yield from reaching the anticipated level. Sometimes it happens that a junior cow's record was made when she was not in calf, and when under high pressure feeding—such records are not likely to run true to expectation. All this is admitted, and more, for it is also true that there is some variation in the rate of maturing between breed and breed; however, after all factors are considered, there can surely be no sounder system of measuring a dairy sire's influence than by a comparison of the age-corrected yields of his mates and their daughters. Such work can be effectively applied only where continuous herd recording is carried on.

Some breeders believe in "skipping," just as others believe in telegony, although there is overwhelming evidence against that possibility. Since the time of Jacob and Laban to the present, men have believed in "maternal impression" in a similar way, but opinions are changing, although "old ideas die hard."

What breeder of Aberdeen Angus cattle would to-day erect black fences about his mating pens, that his breeding stock might beget black progeny? Yet such was the practice, when the early breed makers could not

account for the occasional red calves which were born to black parents. It sometimes occurs that a red and white calf is born in a registered black and white Friesian herd. It could have happened as a result of a visiting red and white bull mating with a Friesian cow which carried the recessive red colour, but it is more likely to have been the result of two strains of black and white Friesians, each of which carried the recessive red. Some breeders balance their disappointment with the hope that when the expected improvement has not occurred it may "skip" a generation and occur later on. Some virtue is ascribed to the power of "nicking"; perhaps a study of the laws of breeding would suggest that a degree of dominance in a character may account for the supposed virtue. Most breeders know that some characters, like hornlessness or bald-face, occur unfailingly if one pure parent is used. It is also generally known that the blended colour of roan occurs in the Shorthorn breed when a white and a red parent are used. Red roans and light roans appear, which suggest that sometimes red, and, at other times white, carry a degree of dominance. These are "seeable" characters, and a breeder has the evidence ever before his eyes, but the unseen characters are much more difficult to appreciate. It is unfortunate for a stud-breeder and for the dairy farmer alike that the characters of milk yield and butter-fat percentage do not possess a full degree of dominance. If this were so, progress towards a higher level of production would have been more certain.

Reference was made in the 1921-22 Annual Report of the Standard Herd Test to the possibilities of the behaviour of the characters of high and low milk yield and test. Since that date an immense amount of work has been carried out in various countries, and it is now known that there is a degree of dominance in "high yield" over "low yield," and that "low test" acts similarly when mated with "high test." Dr. Goddard's "Mount Hope Bull Index" is based on this finding. It is now known that what was originally found to be true between the breeds also occurs within the breeds, and that generally the progeny of parents which possess the opposite characters of high or low milk yield may be expected to group themselves midway between the parental levels. This is the basis of the

"Equal Parent" and the Mount Hope Commercial Index. It is also the basis of the work carried on for many years in Denmark by the English Guernsey Herd Society and the Suffolk Milk Recording Society. In America the Holstein Friesian Society has adopted the Mount Hope Commercial Index, while various systems of progeny testing are now operating. The Victorian United Cow Testing Association introduced Bull Indexing work in 1932.

It is a rather significant fact that the dairy breed societies of Australia have been slow to attempt any work of this nature, and that the honour of being the first breed society to apply Bull Indexing work goes to the Red Poll Society of Victoria, which is to be commended for its initiative.

The Province of British Columbia in 1931 issued a list of bulls, together with the average production of their tested daughters. The fourth and the fifth list issued in 1934 and 1936 present the data in the form of an Equal Parent or modifomed Mount Hope Bull Index. This is claimed by investigators of authority, anxious for progress in the systematic breeding of worthy dairy cattle, to be the best known system of evaluating the worth of a dairy sire.

After an extensive survey of the South Devon breed, Scott, the English investigator, stated that only 25 per cent. of the bulls were equal to the quality of the cows in the herds

investigated. His advice to dairy farmers was: "If you cannot secure a proven bull, then secure the son of a proven bull, whose dam is also a proven cow."

The function of the Victorian Standard Herd Test is the same to-day as when it was originally framed, to provide dairy farmers with information on the producing capacity of the dams of prospective herd sires. From the records of the test much interesting information is available concerning bulls that were sold to dairymen who are continuously testing their herds, and from that information some Equal Parent Indices have been worked out. These are given in the following account of the Jerseyholm Herd; while that of "Havelock of Darbarlara," a noted Shorthorn sire, is told in the story of the Willow Park Stud. The Index of Werribee Northern Masterpiece herd sire of the Staghorn herd is also shown.

The "Jerseyholm" Stud.

During the past twenty-one years the Jersey herd of Mr. T. Harvey, of Boisdale, has been continuously tested in the Standard Herd Test, and for the greater part of that period the butter-fat average has been maintained at a relatively high level. Beginning in 1915 with four cows, which averaged 264 lb. butter-fat, the number tested has since grown to thirty, and the average production to approximately



Portion of Mr. O. Ronalds' productive Jersey herd.

Empress 2nd of Holmwood (4979), by Audrey's Lord Tynfish (985); dam, Victoria 2nd of Holmwood.
Six years average 447 lb. butter-fat. Top record, 502 lb. butter-fat.

Empress of Jerseyholm (9393) by Emperor (964) ex Empire 5th of Melrose
7 years' average 517 lb. butter-fat; top record 596 lb.

Emperor 3rd of Jerseyholm

Emperor 7th of Jerseyholm
Sold to H. T. Dark, Korumburra

Empress 3rd of Jerseyholm (10255) by New Alliance of Jerseyholm
7 years' average 437 lb. butter-fat; top record 497 lb.

Handsome Boy 4th of Jerseyholm by Handsome Boy 5th of Melrose
Sold to Foster Bros., Boisdale

Jerseyholm Empress 4th (13356) by Venture's Hero (820)
6 years' average 410 lb. butter-fat; top record 473 lb.

Empress 6th of Jerseyholm (18733) by Handsome Boy 5th of Melrose
8 years' average 502 lb. butter-fat; top record 618 lb.

Handsome Boy of Jerseyholm by Handsome Boy 5th of Melrose
Sold to C. P. Williams, Willow Grove

Empress 2nd of Jerseyholm (10254) by New Alliance of Jerseyholm
3 years' average 412 lb. butter-fat; top record 509 lb. butter-fat

Handsome Boy 7th of Jerseyholm by Handsome Boy 5th of Melrose
Sold to T. Robinson, Mitta Valley

Island King 8th of Jerseyholm by Lord Island Fancy of Brucevale
Sold to J. Berryman, Yarram

Jerseyholm Empress 9th (21238) by Handsome Boy 5th of Melrose
6 years' average 397 lb. butter-fat; top record 452 lb. butter-fat

Jerseyholm Empress 10th (25396) by Handsome Boy 5th of Melrose
5 years' average 475 lb. butter-fat; top record 544 lb. butter-fat
All bull calves

Empress 27th of Jerseyholm (37511) by Lord Island Fancy of Brucevale
Sold to L. Brown, Tallangatta

Jerseyholm Empress 21st (34063) by Lord Island Fancy of Brucevale
4 years' average 326 lb. butter-fat; top record 360 lb. butter-fat

Handsome Boy 3rd of Jerseyholm by Handsome Boy 5th of Melrose
Sold to Mayall Bros., Mirboo North

Empress 13th of Jerseyholm (25398) by Werribee Master's Fox
5 years' average 365 lb. butter-fat; top record 429 lb. butter-fat

Handsome Boy 9th of Jerseyholm by Handsome Boy 5th of Melrose
Sold to Fairchild and Clutterbuck, Tinamba

Bull—slaughtered as calf

Heifer—slaughtered as calf

Jerseyholm Island King 15th by Lord Island Fancy of Brucevale
Sold to W. Vickerman, Neerim

Jerseyholm Island King 21st by Lord Island Fancy of Brucevale
Sold to A. J. Roy, Boolara

Jerseyholm Master's Fox 8th by Werribee Master's Fox
Sold to G. S. Whitterrow, Mermungee

Jerseyholm Island King 9th by Lord Island Fancy of Brucevale
Sold to A. Duff, Welshpool

Jerseyholm Master's Fox 9th by Werribee Master's Fox
Sold to T. Truscott, Welshpool

Jerseyholm Master's Expert 8th by Werribee Master's Expert

Empress 8th of Jerseyholm (18735) by Handsome Boy 5th of Melrose
4 years' average 344 lb. butter-fat; top record 441 lb. butter-fat

Jerseyholm Empress 18th (28756) by Lord Island Fancy of Brucevale (Not tested, injured)

Jerseyholm Empress 22nd (37506) by Lord Island Fancy of Brucevale
3 years' average 385 lb. butter-fat; top record 419 lb. butter-fat

Jerseyholm Empress 12th (25397) by Lord Island Fancy of Brucevale
300 lb. butter-fat as Sr. 2-year-old
317 lb. butter-fat as Sr. 3-year-old

Jerseyholm Empress 16th (34061) by Lord Island Fancy of Brucevale
291 lb. butter-fat as Jr. 2-year-old

Jerseyholm Empress 15th (25400) by Werribee Master's Fox
360 lb. butter-fat as Jr. 2-year-old

Jerseyholm Empress 33rd (40380) by Werribee Master's Fox
312 lb. butter-fat as Jr. 2-year-old

Bull calf—slaughtered

Heifer calf—died

Inverbroom Empress 2nd (48762) by Economist of Aveley
350 lb. butter-fat as Jr. 2-year-old

Jerseyholm Empress 5th (18650) by Alliance 3rd of Jerseyholm
363 lb. butter-fat as Sr. 2-year-old
421 lb. butter-fat as Sr. 3-year-old

Jerseyholm Empress 7th (18734) by Marge 2nds Hero of Jerseyholm
5 years' average 278 lb. butter-fat; top record 325 lb. butter-fat

Jerseyholm Island King 16th by Lord Island Fancy of Brucevale
Sold to G. Ross, Orbest

Jerseyholm Master's Expert 6th by Werribee Master's Expert
Sold to R. Clippen, Boisdale

Jerseyholm Empress 14th (25399) by Lord Island Fancy of Brucevale
4 years' average 441 lb. butter-fat; top record 499 lb. butter-fat

Jerseyholm Master's Fox 29th by Jerseyholm Master's Fox 6th
Sold to Dr. Henderson, Wangaratta

Jerseyholm Master's Fox 26th by Werribee Master's Fox
Sold to G. Bird, Catani

Jerseyholm Empress 30th (40377) by Werribee Master's Fox
326 lb. butter-fat as Jr. 2-year-old
363 lb. butter-fat as Jr. 3-year-old

Jerseyholm Master's Fox 12th by Werribee Master's Fox
Sold to L. V. Brown, Tallangatta

Jerseyholm Master's Fox 14th by Jerseyholm Master's Fox 6th
Sold to J. Nuttall, Yinnar

Jerseyholm Empress 31st (40378) by Werribee Master's Expert
302 lb. butter-fat as Jr. 2-year-old
337 lb. butter-fat as Jr. 3-year-old

Jerseyholm Empress 46th by Jerseyholm Master's Fox 6th
Not yet tested

Jerseyholm Empress 32nd (40379) by Werribee Master's Fox
345 lb. butter-fat as Jr. 2-year-old
367 lb. butter-fat as Jr. 3-year-old

Jerseyholm Empress 36th (44482) by Werribee Master's Fox
Sold to Cheong Bros., Croydon

Jerseyholm Island King 4th by Lord Island Fancy of Brucevale
Sold to Cameron, Noorimbee

Jerseyholm Empress 20th (34062) by Lord Island Fancy of Brucevale
3 years' average 330 lb. butter-fat; top record 361 lb.

Jerseyholm Empress 16th
Injured as helper (Not tested)

Jerseyholm Empress 23rd
Died as calf

Jerseyholm Empress 29th (40376) by Werribee Master's Fox
283 lb. butter-fat as Jr. 2-year-old
288 lb. butter-fat as Sr. 3-year-old

Jerseyholm Empress 39th by Jerseyholm Master's Fox 6th
Sold to T. C. Blair, Garvoc

Jerseyholm Master's Fox 2nd by Werribee Master's Fox
Sold to J. Porter, Cora Lynn

Jerseyholm Empress 25th (37509) by Werribee Master's Fox
277 lb. butter-fat as Jr. 2-year-old

Jerseyholm Master's Expert 3rd by Werribee Master's Expert
Sold to Dr. Glassford, St. Kilda

Jerseyholm Empress 26th (37510) by Lord Island Fancy of Brucevale
Sold to J. Reid, Ellenbank

Jerseyholm Island King 23rd
Sold to D. C. McColl, Boisdale

Jerseyholm Master's Expert 7th
Sold to K. Stockdale, Maffra

Jerseyholm Master's Expert 10th
Sold to J. Cook

Jerseyholm Master's Fox 32nd
Sold to J. H. Pumphrey, Cora Lynn

Jerseyholm Island King 2nd by Lord Island Fancy of Brucevale
Sold to J. B. Watson, Tallygaroopna

Jerseyholm Island King 3rd by Lord Island Fancy of Brucevale
Sold to Foster Bros., Boisdale

Jerseyholm Empress 17th (28755) by Lord Island Fancy of Brucevale
336 lb. butter-fat as Senior 3-year-old
380 lb. butter-fat as Senior 4-year-old

Jerseyholm Island King 22nd by Lord Island Fancy of Brucevale
Sold to W. H. Ruggles, Derrinallum

Jerseyholm Empress 35th (40382) by Werribee Master's Expert
336 lb. butter-fat as Junior 2-year-old

Jerseyholm Master's Fox 25th by Jerseyholm Master's Fox 6th
Sold to F. Evans, Kabinna West

Jerseyholm Empress 47th by Jerseyholm Master's Fox 6th
Not yet tested

Jerseyholm Empress 42nd (Vol. 23) by Jerseyholm Master's Expert
Now under test

Jerseyholm Master's Fox 20th by Werribee Master's Fox
Sold to H. Sanders, Bayles

Jerseyholm Empress 34th (40381) by Werribee Master's Fox
278 lb. butter-fat as Junior 2-year-old

400 lb. The accompanying table gives some indication of the dairy qualities of the herd:—

TWENTY YEARS BUTTER-FAT RECORDS OF THE JERSEYHOLM HERD (WITHOUT ALLOWANCES).

Year.	Butter-fat.	Year.	Butter-fat.
	lb.		lb.
1916 ..	361	1926 ..	489
1917 ..	352	1927 ..	425
1918 ..	337	1928 ..	424
1919 ..	365	1929 ..	446
1920 ..	404	1930 ..	378
1921 ..	399	1931 ..	414
1922 ..	467	1932 ..	384
1923 ..	420	1933 ..	423
1924 ..	443	1934 ..	365
1925 ..	405	1935 ..	394

In 1920 the herd averaged 404 lb. butter-fat (with allowances 441 lb.). This yield brought it into second place for the Standard Herd Prize; in the following year it was third, with a slightly lower yield; while in 1922 the distinction of being champion herd was achieved, the yield being 472 lb. per cow (including allowance for herd size and junior cows).

Mr. Harvey makes no secret of the generous feeding of concentrates to the herd during the period of high prices for dairy products; however, lower prices for butter-fat and slackened sales for stud stock demanded strict attention to the most economic methods of production. The herd is now mainly dependent on farm-grown crops and irrigated pastures, bran being the only supplementary food used. Although the owner of Jerseyholm at times is found judging

Jersey classes at provincial shows, he is more concerned about the "show" of his herd in the barn at home. It is evident from the story of the herd that the breeding plan followed has generally been successful. Perhaps the greatest success came from the use of the two home bulls "New Alliance" and "Emperor," but although more than once an outcross bull proved unsatisfactory, "Handsome Boy 5th of Melrose" undoubtedly had a very definite beneficial influence on this herd.

During last April the farm was visited by two prominent herd testing New Zealanders, who expressed the view that they had not seen a more businesslike herd of Jerseys. Several deep bodied, good uddered cows, among the matrons of the herd, were much admired.

It is not doubted at Jerseyholm that the present level of production could be much increased under high-pressure feeding; the desire of the owner, however, is to develop economic yields. Breeders with extensive experience of test work know only too well the difficulty of maintaining a high yield as the high levels of the breed are being approached, let alone increasing it. This is even more difficult to achieve when the herd size is trebled, as was the case at Jerseyholm.

During the twenty-one years of testing work many well-known families were developed, including the Kirstys, Sparkles, Daisys, Lady Marges, Bluebells, and the Empresses. On page 446 appears a progeny and production chart of "Empress 2nd of Holmwood," a consistent daughter of the famous Audrey Lord Twylish. This cow averaged 447 lb. butter-fat for six lactations. Her daughters "Empress" and "Empress 6th" are among the few long-distance cows that have averaged over 500 lb. butter-fat for five years or more. Two other daughters also proved to be consistent producers—"Empress 3rd" (7 years, 437 lb. butter-fat), and Empress 4th (6 years, average 410 lb. butter-fat). Through these four daughters the Empress family has developed to Empress 42nd, a junior heifer now under test in the home herd.

As the total area of the farm is but 80 acres it is not surprising to find that much surplus stock has been sold from time to time. With the advent of the Herd Recording Association Movement in 1921 and of the "Better Farming Train" in 1924, together with the Bull Calf scheme, and the advocacy by



New Alliance of Jerseyholm.

departmental officers of the replacement of non-descript bulls, with production-bred pure herd sires, a very considerable impetus was given to sales of pure bred stock. This was further accelerated by the higher farm incomes then ruling. During this period many Jerseyholm bulls were sold into herds which have since been consistently under Association Herd test. It has therefore been possible to prove their value by a comparison of the yields of their mates and daughters. As might be expected, not all of these bulls were successful; indeed, more than one proved unsatisfactory. Such a one was "Bull X" (see accompanying table). Although his dam was a consistent 400 lb. yielder, and his sire was a noted bull, his own daughters were uniformly inferior milkers to their dams. A comparison of 43 records of his daughters with 34 records of their dams shows that, although he raised the average test by one-half per cent., he also reduced the butter-fat yield by 41 lb. As the yields all occurred during a period of three years, the comparison was a fair one.

On the other hand, quite generally, Jerseyholm bulls have been successful in raising the yields of the herds into which they have been introduced. Herd-sires of the calibre of the first two on the list have been a valuable asset to the industry, as well as a source of increased revenue to their owners. In each instance these bulls were mated with herds that had been heavily culled, yet they were able to sire daughters that were superior to their selected dams. This was particularly true of Bull "A," for although he slightly reduced the average milk yield, he compensated for this loss by increasing the butter-fat test by 1 per

cent. His index is shown to be 500 lb. butter-fat. For a long time past investigators have known that the yield of a sire's dam offers no guarantee of the level of production that her son will transmit. It is, however, the best indicator that we at present know.

Bull "A" was well proven to be a good sire, for there were 112 records available from his 28 mates, which averaged 389 lb. butter-fat—a splendid average for so many years of work—yet 62 records of their daughters by Bull "A" showed the excellent average of 440 lb. butter-fat. The dam of this bull was tested over a period of nine years, her average being 416 lb., and her highest record 464 lb. butter-fat.

Bull "B" was superior to "C," for he increased the yields of his daughters from better dams than those mated to the latter bull. Bull "C," however, was a good sire, for although he did not materially increase the producing ability of his daughters over that of their dams, it must be admitted that a 374 lb. average in 273 days is a high average yield on a commercial dairy farm.

These two bulls are full brothers; their dam's age-corrected yield for five lactations was 530 lb. One went to a herd in Gippsland, the other to a herd in the Western District. Each is proven to have passed on high production to his daughters.

Bull "D" went to an irrigation farm in the Goulburn Valley, where the 26 records of his unselected daughters exhibited an increase in milk yield and test and, consequently, in the average butter-fat yield. Bull "E" did likewise, although not to the same extent.

A LIST OF JERSEYHOLM BULLS FOR WHICH EQUAL PARENT INDICES HAVE BEEN WORKED OUT, TOGETHER WITH AGE-CORRECTED YIELDS OF THEIR GRADE MATES AND DAUGHTERS.

Bulls.	Number of Dams and Daughters in Comparison.	Number of Records Averaged.	Age Corrected Yields.			Average Butter-fat Yield of Sire's Dam, and his Equal Parent Index.
			Milk.	Average Test.	Butter-fat.	
			lb.	%	lb.	
A.	Dams 28 ..	112	8,507	4.57	389	Dam, 9 years' average, 416 lb. butter-fat
	Daughters 28 ..	62	7,987	5.51	440	Sires' Index, milk 7,462 lb., butter-fat 491 lb.
B.	Dams 15 ..	53	7,547	5.22	394	Dam, 5 years' average 530 lb. butter-fat
	Daughters 15 ..	18	7,850	5.27	414	Sires' Index, milk 8,150 lb., butter-fat 434 lb.
C.	Dams 5 ..	8	7,018	5.36	374	Dam, 5 years' average 530 lb. butter-fat
	Daughters 7 ..	8	6,782	5.54	376	Sires' Index, milk 6,546 lb., butter-fat 378 lb.
D.	Dams 10 ..	43	6,874	4.45	315	Dam, 2 years' average 450 lb. butter-fat
	Daughters 14 ..	26	7,055	5.28	372	Sires' Index, milk 7,326 lb., butter-fat 429 lb.
E.	Dams 9 ..	31	6,419	5.01	321	Dam (not tested, sold as heifer)
	Daughters 11 ..	31	6,719	5.42	364	Sires' Index, milk 7,019 lb., butter-fat 407 lb.
X.	Dams 13 ..	34	7,328	4.9	351	Dam, 10 years' average 429 lb. butter-fat
	Daughters 13 ..	43	5,576	5.4	310	Sire's Index, milk 3,824 lb., butter-fat 269 lb.

EQUAL PARENT INDICES OF PROMINENT HERD SIRES AT JERSEYHOLM.

			Milk.	Test.	Butter-fat.
			lb.	%	lb.
"Venture's Hero" A.J.H.B. (810)	37 records of his 7 daughters' average		7,394	5.79	428
	37 records of their 7 dams' average ..		7,141	5.85	420
	Sire's Index = 7 pairs' average ..		7,641	5.86	436
"Emperor" A.J.H.B. (964)	42 records of his 9 daughter's average		8,168	5.60	457
	44 records of their 9 dams' average ..		7,316	5.71	420
	Sire's Index = 9 pairs' average ..		9,020	5.47	494
"New Alliance of Jerseyholm" .. A.J.H.B. (1638)	25 records of his 8 daughters' average		7,923	6.04	479
	42 records of their 8 dams' average ..		7,782	6.0	467
	Sire's Index = 9 pairs' average ..		8,064	6.09	491

Perhaps the greatest bull that every left Jerseyholm was "Alliance 6th," a son of one of the high testing Kirsty family. His sire, "New Alliance," and his paternal grandsire, "Emperor," were each renowned for their high-producing daughters. Unfortunately, records of the dams of his high-producing daughters are not available. Some measure of his greatness may be had from a statement of the yields of seven of his daughters ex-Shorthorn cows—these averaged over 600 lb. butter-fat in the 1932 season. The group included "Julia," the most consistent grade cow of Australia, her yields for three consecutive years being 703, 876, and 880 lb. butter-fat.

It will be noted that Jerseyholm bulls have invariably raised the average test of their daughters; they have also generally maintained the milk yield.

A reference to the indices (above) of three of the early bulls used indicates that they each carried the high test character. This was particularly true of "New Alliance of Jerseyholm," for when mated with eight cows whose average test for 42 records was 6.0 per cent., he left daughters which were slightly better in test and better milkers.

"Emperor's" daughters were slightly lower in test, but considerably better milkers than their dams; each of these bulls have an index of approximately 500 lb. butter-fat.

There is an interesting item of herd test history associated with "Venture's Hero," for his dam, "Wilfull Venture," was the second highest producing cow in the first year of the Standard Herd test. Thirty-seven records of his daughters average a little lower in test and a little higher in milk yield. Old "Wilfull

Venture" produced 6,872 lb. milk, testing 6.27 per cent., and 431 lb. butter-fat in 1913. Her son also carried the high test character, for when mated with high testing cows he left daughters which were also high testers.

Willow Park Dairy Shorthorns.

When Mr. W. K. Atkinson arrived from England in 1910 he brought to this State a wide knowledge of the Dairy Shorthorn breed. As a keen admirer of Thos. Bates, the great improver of the English Dairy Shorthorn, it is not surprising that he has introduced similar practices into his work at Willow Park, as were employed by the great master-breeder himself.

Some authorities emphatically declare that there can be no such thing as a dual purpose animal. Such people will have great difficulty in explaining away some of the leading cows at Willow Park, like "Cherry" and "Fairy," together with some of their sons, which scale upwards of one ton in weight. The records of this herd in the Standard Test, since 1918, are shown in the table on page 450.

Like the great breeders of more than 100 years ago, Mr. Atkinson has concentrated on some outstanding individual. His great herd improver was the bull "Havelock of Darbalara," a paternal half-brother to the sire and dam of the famous "Melba 15th of Darbalara," whose world record yield of 1,614 lb. of butter-fat in 365 days was only recently exceeded by the Japanese Friesian cow "Frins Anna Roland." Havelock is the only bull in this State to sire four daughters whose lifetime records exceed 100,000 lb. milk and/or

EIGHTEEN YEARS HERD RECORDING YIELDS OF THE WILLOW PARK STUD.

Year.	Tested Cows.	Average yield Butter-fat.	Year.	Tested Cows.	Average yield Butter-fat.	Year.	Tested Cows.	Average yield Butter-fat.
		lb.			lb.			lb.
1918	2	246	1924	17	338	1930	42	363
1919	8	286	1925	19	335	1931	39	396
1920	9	312	1926	19	351	1932	39	387
1921	9	328	1927	29	359	1933	44	390
1922	14	338	1928	33	327	1934	36	411
1923	16	332	1929	43	323	1935	33	419

5,000 lb. butter-fat. These cows are his eldest daughters, and their performance is given below.

Starting with the best stock available, Mr. Atkinson has, by the influence of Havelock and the knowledge of the principles of breeding used by the great breeders of the past, been able to breed cows which have exceeded 90 lb. of milk in 24 hours, while many cows have produced above 50 lb. a day. Indeed, on one occasion, the champion test cow "Cherry" produced over 50 lb. on her last test day; while her illustrious daughter "Fairy" averaged 54 lb. on her last test day during the four years 1929 to 1932, her greatest effort being in 1931 when she finished test on 56 lb. daily.

At Willow Park there are 28 daughters of this great sire with herd test records. Of this number 22 have unrelated dams. Both the daughters and dams have been extensively tested, and when a comparison of all age corrected records is made the resulting index shows what a great sire "Havelock" really was. It will be seen that the average yield of milk and test were both favorably influenced, which resulted in an increased yield for the 127 records studied of 567 lb. milk and 41 lb. of butter-fat, the test being increased by 0.18 per cent.

Not only did Havelock increase the average earning capacity of the "Willow Park" herd, by reason of transmitting such desirable characters as consistent yield, increased test,

HERD TEST RECORDS OF FOUR DAUGHTERS OF HAVELOCK OF DARBALARA.

Name of Cow.	Years.	Average Yields.			Lifetime Yields Under Test.	
		Milk.	Test.	Fat.	Milk.	Butter-fat.
		lb.	%	lb.	lb.	lb.
Willow Park Cherry	10	15,188	3.94	599	151,880	5,990
Willow Park Moss Rose	9	12,204	4.09	500	109,839	4,498
Willow Park Blush	12	11,398	3.94	449	135,266	5,388
Willow Park Damsel	10	10,242	4.26	437	102,420	4,370

EQUAL PARENT INDEX OF HAVELOCK OF DARBALARA.

						Age Corrected Yields.		
						Milk.	Test.	Butter-fat.
						lb.	%	lb.
Dams	..	..	..	..	22	8,888	3.95	350
Daughters	..	..	..	..	22	9,455	4.13	391
Difference in average yield						567	.18	41
Sire's Index						10,022	4.31	432

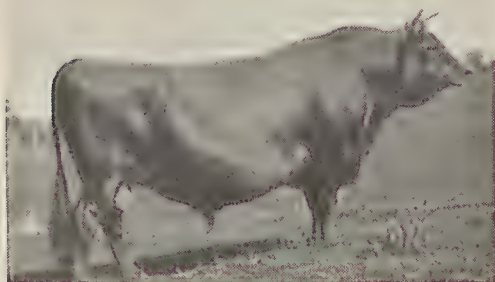
longevity, and fecundity; but he also made an interstate reputation for the stud, as well as leaving better material for the owner to work upon, for the herd to-day is larger and has a higher production level than at any previous period. This has resulted from the use of sons of Havelock's best daughters, in a skilfully planned scheme of line breeding, similar to that employed by the great Bates himself.

In the place of Havelock (who died as a result of an accident at 13 years of age) there is now in service the beautiful deep red imported bull "Wickelsham Lord Barrington 5th." This bull has already provided some of the progeny proof sought by this owner, in that his stock have better rumps and are of better colour. That he had consistent high production mates is abundantly evident. If he can hold or improve the present level of the herd, he will be a great bull indeed, and his pedigree suggests that he should; but only a comparison of the production records of his mates and their daughters will supply the necessary confirmation, and this story has still to be told.

Staghorn Jerseys.

In 1917 the late Mr. F. Bidgood entered his Staghorn herd of Jerseys in the Standard Test. Since then, with the exception of two short intervals, the herd has been continuously under test. The farm is situated at Staghorn Flat, near Wodonga, in North Eastern Victoria. Generally, the soil is light in character, and the conditions are not conducive to high yields.

The experience at Staghorn has been very similar to that of many other testing owners,



"Werribee Northern Masterpiece."

in that continuous herd recording work has definitely proved that there were great individuals and superior strains in the herd, which have shown out, when all factors of

management and environment have been the same.

The record of this herd shows clearly that pleasing breed type and good production yields can be developed at the same time, for Staghorn stock have occupied leading positions at



"Havelock of Darbalara," at the age of 13.

the interstate Royal Shows, as well as in the Standard Herd Tests. In 1930 this herd occupied second position in the Standard Test, when seventeen cows averaged (with allowances) 523 lb. butter-fat. In the following years it occupied 8th and 9th positions among the 257 herds of all breeds.

During this period the influence of a really great bull in the herd was evident, for the majority of the tested cows were daughters of "Werribee Northern Masterpiece," a son of the imported bull "Masterpiece," and out of Werribee Northern Princess, who exceeded 400 lb. butter-fat on the only occasion that she was tested.

In 1932-33 his daughter "Staghorn Master's Belle" was the leading junior four-year-old, with a yield of 611 lb. butter-fat, while at the 1931 Royal Show his son was placed ahead of six imported bulls to win the male championship for the breed.

There is ample proof that this bull was an unusual sire. For instance:—

1. His son was equal to winning the State Championship.
2. His daughter was equal to winning a State-wide production class.
3. Mainly through his influence the herd occupied second place among all breeds for production in 1930.
4. His highest average producing daughter carried a double cross of his breeding.
5. Twenty-three of his unselected daughters averaged 8,525 lb. milk and 494 lb. butter-fat (age corrected yields).

*Pedigree and Production of Northern Larkspur (4724), born 1913, by Northwood King (imp.)
Private test as a 2-year-old 6430 lb. milk, 466 lb. butter-fat.*

Staghorn Master Lark's Laburnum (22979) by Masterpiece (imp.)
475 lb. butter-fat as Junior 2-year old
482 lb. butter-fat as Junior 4-year old

Staghorn Northlark's Masterpiece (5709) by Masterpiece (imp.)
11 Junior daughters had 19 records which averaged 6504 lb. milk, 380 lb. butter-fat

Werribee Northern Larkspur 2nd (6390) by Attraction Fox
Mature 307 lb. butter-fat
Mature 284 lb. butter-fat

Staghorn Northern Larkspur (28460) by Madeira's King of Staghorn
287 lb. butter-fat as Junior 2-year old
280 lb. butter-fat as Junior 3-year old

Staghorn Northern Princess (36899) by Werribee Northern Masterpiece
388 lb. butter-fat as Junior 2-year old

King's Larkspur of Staghorn (10152) by Werribee Fancy's Butter King
3 years' average 350 lb. butter-fat; top record 360 lb. butter-fat

Sir Fancy's Larkspur of Staghorn (10156) by Sir Fancy Madeira of Werribee
8 years' average 402 lb. butter-fat; top record 470 lb. butter-fat

Staghorn Master's Grace (46202) by Werribee Northern Masterpiece
458 lb. butter-fat as Junior 4-year old

Staghorn Northern Fern by Nancy's Noble (imp.)
263 lb. butter-fat as Junior 2-year old

Staghorn Master's Larkspur (28455) by Werribee Northern Masterpiece
4 years' average 509 lb. butter-fat; top record 566 lb. butter-fat

Staghorn Master's Larkspur 2nd (32976) by Werribee Northern Masterpiece
345 lb. butter-fat as Junior 2-year old
481 lb. butter-fat as Junior 3-year old

Staghorn Master's Madeline (42010) by Werribee Northern Masterpiece
372 lb. butter-fat as Junior 2-year old

Staghorn Fancy Lark's Princess (21124) by Lily's King of Staghorn
Not tested

Staghorn Master's Larkspur 3rd (32977) by Staghorn Northlark's Masterpiece
Sold to Mr. Kerr

Staghorn Sir Fancy's Belle (18637) by Madeira's King of Staghorn
289 lb. butter-fat as Junior 2-year old
412 lb. butter-fat as Junior 4-year old

Fox's Larkspur of Staghorn (12871) by Daisy's Fox of Staghorn
Not tested

Staghorn Fancy's Promise (17406) by Madeira's King of Staghorn
370 lb. butter-fat as Junior 2-year old
389 lb. butter-fat as Junior 3-year old

Staghorn Master's Fancylark (28453) by Werribee Northern Masterpiece
426 lb. butter-fat as Junior 2-year old
479 lb. butter-fat as Junior 3-year old

Staghorn Aldan's Larkspur 2nd (50638) by La Sente's Lord Aldan (imp.)
421 lb. butter-fat as Junior 3-year old

Staghorn Concentrated Larkspur (46200) by Staghorn Northern Masterpiece
Sold to B. L. Hobden, New South Wales

Staghorn Larkspur Attraction (27853) by Staghorn Butter Queen's Pandora
Sold to E. V. Smith, New South Wales

Staghorn Aldan's Belle 2nd (50636) by Staghorn Lord Aldan
(Under test)

Staghorn Master's Belle 2nd (28450) by Werribee Northern Masterpiece
3 years' average 468 lb. butter-fat; top record 547 lb. butter-fat

Staghorn Northern Belle (34786) by Northlark's Masterpiece
Sold Robinson Bros., Western Australia
1st prize R.A.S., Perth, Western Australia

Staghorn Master's Belle (25762) by Werribee Northern Masterpiece
4 years' average 521 lb. butter-fat; top record 611 lb. butter-fat
2nd prize R.A.S., Sydney

Staghorn Aldan's Footprint by Le Sente's Lord Aldan
1st 1 year R.A.S., Melbourne
1st 18 months, R.A.S., Sydney

Staghorn Master's Cello (25763) by Werribee Northern Masterpiece
3 years' average 415 lb. butter-fat; top record 511 lb. butter-fat
3rd prize R.A.S., Melbourne

Staghorn Lady Cello by Le Sente's Lord Aldan
Under test
2nd R.A.S., Melbourne

Staghorn Master's Fancy (22982) by Werribee Northern Masterpiece
5 years' average 423 lb. butter-fat; top record 504 lb. butter-fat

Staghorn Master's Fancy 2nd by Werribee Northern Masterpiece
4-year average 528 lb. butter-fat; top record 560 lb. butter-fat

Staghorn Northlark's Matilda (34787) by Staghorn Northlark's Masterpiece
Sold to Robinson Bros., Western Australia

Staghorn Claribelle (32971) by Staghorn Northlark's Masterpiece
236 lb. butter-fat at Junior 2-year old



Productive Jerseys from the Belgonia herd of Mr. P. J. Maloney. Top left, a promising young heifer; top right, "Suspense" (imp.). Bottom left, "Gems Noella" (imp.); bottom right, "Belgonia Peggy 6th".

6. As will be seen from the progeny chart (page 452), he was mated with the daughters of five different sires in the Larkspur family, and left good producing daughters in each instance.

7. He was the most successful sire at Melbourne Royal Agricultural Show 1928 and 1931, and is still at the stud at the age of 14 years.

An equal Parent Index of eighteen pairs of dams and daughters gives the results set out in the accompanying table.

It is evident that the influence of this bull was of a twofold nature, for when 63 records of his daughters are compared with 71 of his mates, the average difference is nearly 1,000 lb. of milk, and .41 increase in the test, with an average increase of 88 lb. of butter-fat.

This achievement would have been a commendable one, if the test period were of 305 or 365 days, as is the case overseas; that it applies to the shorter period of 273 days makes it still more praiseworthy.

INDEX OF WERRIBEE NORTHERN MASTERPIECE.

		Records Averaged.	Milk.	Test.	Butter-fat.
			lb.	%	lb.
18 Dams	..	71	7,593	5.36	407
18 Daughters	..	63	8,581	5.77	495
Difference	..	..	988	.41	88
Sire's Index (18 pairs)		..	9,561	..	583

One of the outstanding families at Staghorn originated in "Northern Larkspur," a cow with a two-year-old record (private) of 466 lb. butter-fat. This record was confirmed by the even higher record of 475 lb. made by her junior two-year-old daughter "Staghorn Masterlarks Laburnum." One daughter "S. Northern Larkspur" was not a high producer.

Mr. Bidgood was induced to purchase the old cow "Northern Larkspur" because of the excellent yield of her daughter "Werribee."

Northern Larkspur 2nd," which produced over 300 lb. of butter-fat at six years of age when crippled as the result of an accident. It is through "King's Larkspur" and "Sir Fancy's Larkspur," daughters of this cow, that the Larkspur family has been mainly developed.

From "King's Larkspur" comes two full sisters by "Werribee Northern Masterpiece." Each has proved a much superior producer, one daughter, "Staghorn Master's Larkspur," having a four-year average yield exceeding 500 lb. of butter-fat compared with her dam's three-year average of 350 lb., while "Staghorn Master's Larkspur 2nd" has exceeded her dam's mature average by over 100 lb. butter-fat while still a junior cow.

Among the seven daughters of "Sir Fancy's Larkspur of Staghorn" are two full sisters by "Werribee Northern Masterpiece." One is the high producing junior three-year-old "Staghorn Master's Fancy Lark." Her yield was 479 lb. following 426 as a junior two-year-old, while "Staghorn Master's Madeline"

produced 372 lb. butter-fat as a junior two-year-old, indicating that she also will be an excellent mature cow. Each of these cows is a better producer than their splendid dam.

In the fourth generation from old "Werribee Northern Larkspur 2nd" there are four other excellent daughters of "Werribee Northern Masterpiece." One is "Staghorn Master's Cello," whose dam was not tested—her best record to date is 512 lb. butter-fat. "Staghorn Master's Belle 2nd," "Staghorn Master's Belle," and "Staghorn Master's Fancy" are from daughters of "Madeira's King of Staghorn"—here again the daughters of "Werribee Northern Masterpiece" are superior producers to their dams.

From "Staghorn Master's Fancy," a 504 lb. butter-fat cow with a five-year average of 423 lb., comes the double cross daughter of this great sire, her average yield being the highest of all his excellent producing daughters. This daughter is "Staghorn Master's Fancy 2nd," whose four records average 528 lb. and her best effort 560 lb. butter-fat.

Herd Averages, 1935-36

Owner.	Breed.	Junior 2-year-old.		Senior 2-year-old.		Junior 3-year-old.		Senior 3-year-old.		Junior 4-year-old.		Senior 4-year-old.		Mature.		Total Herd.	Average without Allow- ances.	Average with Allow- ances
		No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.			
SECTION I.—HERDS OF BETWEEN 10 AND 17 COWS.																		
1. Chirnside, R. M.	Jersey ..	7	441.96	1	549.01	..	..	5	578.69	..	..	1	588.77	1	712.37	15	522.49	613.99
2. Enders, N. H. ..	" ..	4	428.54	3	527.44	2	551.29	1	579.07	3	607.24	1	624.40	2	563.43	16	531.41	613.69
3. Ronalds, O. ..	" ..	1	369.69	1	361.82	1	550.69	..	..	1	502.06	2	567.28	4	527.54	10	502.90	540.90
4. Williams, F. A. ..	" ..	5	401.74	..	..	1	335.46	..	..	..	..	1	468.64	3	522.12	10	439.42	509.42
5. Noble, T. W. and Son	" ..	3	362.76	..	..	2	419.97	..	..	..	..	..	..	6	513.36	11	455.31	608.08
6. Dookie Agricultural College	Ayrshire	5	338.08	3	397.74	..	..	..	..	..	..	..	..	6	485.36	14	413.98	485.27
7. Hore, E. ..	Jersey ..	8	344.49	..	..	..	..	1	487.23	1	445.39	..	..	1	348.34	11	366.99	468.86
8. Vaughan Bros. ..	" ..	2	297.39	3	393.75	2	349.08	..	..	1	566.10	..	..	5	415.05	13	405.04	468.46
9. Findlay, T. R. ..	" ..	4	359.01	3	356.68	..	..	3	346.47	1	454.10	1	580.56	3	426.96	15	390.73	466.23
10. Smith, G. and W.	" ..	2	357.88	2	380.96	..	..	2	423.04	..	..	..	..	11	415.22	17	405.36	446.80
11. Desmond, J. J. ..	" ..	5	298.05	3	329.78	1	370.69	2	425.53	..	..	..	..	5	435.86	16	367.54	444.29
12. Austin, F. ..	" ..	5	280.90	1	499.46	1	397.50	..	..	1	378.14	2	395.33	4	445.64	14	375.20	443.63
13. Nancarrow Bros.	" ..	2	288.10	..	..	..	..	..	..	..	..	..	..	8	451.81	10	419.07	443.07
14. Hurrey, W. H. ..	" ..	7	287.53	..	..	3	383.42	..	..	3	432.81	..	..	3	412.32	16	356.15	439.15
15. Fixter, W. and Son	" ..	1	369.14	..	..	2	344.36	..	..	1	464.15	1	474.08	8	407.81	13	404.50	437.16
16. Vagg, E. J. ..	" ..	4	346.33	..	..	..	..	1	382.44	..	..	3	355.84	6	420.49	14	382.73	432.58
17. Van Brummelen, J. K.	Friesian..	1	245.08	..	..	3	376.12	1	393.81	..	..	1	354.14	5	416.23	11	382.05	427.55
18. Gay, R. G. ..	Jersey ..	3	278.72	..	..	..	..	2	390.61	3	425.69	1	466.08	0	386.00	15	378.43	427.27
19. Chadderton, J. E.	" ..	2	313.27	..	..	2	311.42	1	374.53	..	..	..	..	6	411.65	11	372.16	419.48
20. Coughlin, C. ..	" ..	7	304.23	3	350.04	3	333.87	..	..	1	288.24	1	355.14	2	348.91	17	324.68	417.88
21. Tomasetti, B. G.	Ayrshire	2	239.99	1	302.95	1	355.52	1	338.43	1	329.69	..	..	8	422.58	14	370.51	414.65
22. Box, late Dr. J., Whittlesea	Jersey ..	4	277.72	1	286.18	2	332.71	1	344.27	1	364.73	1	349.68	3	437.50	14	310.46	414.60

HERD AVERAGES, 1935-36—continued.

Owner.	Breed.	Junior 2-year-old.		Senior 2-year-old.		Junior 3-year-old.		Senior 3-year-old.		Junior 4-year-old.		Senior 4-year-old.		Mature.		Total Herd.	Average without Allow- ances.	Average with Allow- ances.
		No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.			
SECTION 1.—HERDS OF BETWEEN 10 AND 17 Cows—continued.																		
23. Goldschmidt, O.	Jersey ..	8	280.32	1	353.57	1	270.02	1	373.75	..	..	..	..	11	294.53	409.13		
24. Lowing, Mrs. L.	" ..	4	296.04	..	..	1	348.45	..	..	1	324.20	2	370.35	2	378.12	10	335.37	390.33
25. King, H. W.	" ..	2	231.52	..	..	3	323.12	1	336.17	..	..	..	..	5	423.56	11	344.21	398.80
26. Esler, G.	" ..	5	256.32	..	..	..	..	1	401.67	..	..	2	387.48	4	383.59	12	332.71	397.05
27. Overend, Mrs. A. C.	" ..	3	299.82	2	255.61	..	..	3	339.35	..	..	..	..	6	378.60	14	335.74	395.59
28. Chitty, C.	" ..	3	250.74	..	..	1	321.42	1	306.81	1	343.22	1	381.02	4	405.24	11	338.78	395.19
29. McDougall, J.	" ..	5	321.04	..	..	2	335.90	2	329.29	..	..	1	379.72	5	318.72	15	327.26	394.76
30. Fraser, G. A.	Ayrshire	4	221.68	1	380.70	2	290.99	1	236.83	..	..	2	506.66	3	350.86	13	319.39	390.51
31. Dobson, R. J. M.	Jersey ..	6	257.01	2	360.47	..	..	..	..	1	369.60	..	..	1	306.50	10	293.91	389.91
32. Pearson, J.	" ..	5	275.57	1	294.23	2	279.56	1	339.53	..	..	..	..	3	359.27	12	304.05	386.71
33. West, J. C.	Australian Illawarra Shorthorn	4	295.76	1	281.97	..	..	1	306.68	..	..	..	..	5	340.20	11	315.70	379.38
34. Salesian College	Friesian ..	3	263.22	..	..	4	278.00	1	304.78	1	282.90	2	279.35	4	411.12	15	312.83	375.00
35. Warragul High School	Red Poll	3	271.04	1	241.56	1	220.02	1	261.34	3	358.05	2	306.17	1	375.01	12	299.79	369.13
36. Richardson, W. S.	Jersey ..	..	..	..	..	4	276.48	1	318.99	..	..	2	372.99	3	356.41	10	324.01	366.01
37. Tuckey, J. F.	Ayrshire	..	..	..	..	2	280.52	2	389.73	2	337.51	1	348.07	7	325.30	14	331.48	365.62
38. Pattison, F.	" ..	1	278.06	4	263.55	2	306.91	3	353.42	1	348.78	1	342.67	5	286.67	17	301.83	364.45
39. Raleigh, Miss H. E.	Jersey ..	2	267.15	..	..	3	289.58	2	287.39	1	357.33	..	..	5	33.379	13	308.01	363.74
40. Handbury, J. E. and Sons (No. 2 Farm)	" ..	2	211.08	1	311.46	1	336.08	1	393.80	..	..	2	339.08	8	330.79	15	319.20	361.37
41. Stoney, W. B.	" ..	3	218.72	3	254.12	2	262.63	2	314.20	1	272.14	..	..	..	..	11	258.57	353.16
42. Xavier College	" ..	2	283.66	..	..	2	327.68	..	..	1	424.60	..	..	5	274.57	10	302.02	346.02
43. Maher, R. H.	" ..	2	238.79	..	..	1	329.09	..	..	2	317.75	..	..	8	318.79	13	307.12	344.39
44. Bassett-Smith, C.	Red Poll	3	198.70	2	207.43	1	277.73	1	274.35	..	..	1	311.97	3	272.48	11	244.77	315.72
45. Schlipalius, A. J.	Jersey ..	3	168.74	..	..	4	224.03	2	297.34	..	..	1	300.66	4	248.10	14	235.44	301.01
SECTION 2.—HERDS OF BETWEEN 18 AND 25 Cows.																		
1. Maloney, P. J.	Jersey ..	3	389.58	1	436.08	6	462.58	1	481.47	2	485.54	..	..	6	504.72	19	466.38	532.72
2. Lyon, C. G.	" ..	5	351.12	1	280.46	1	366.56	2	379.89	5	457.03	..	..	10	453.72	24	416.03	473.87
3. Department of Agriculture	Friesian ..	7	285.03	..	..	1	303.66	3	404.83	1	489.65	1	466.79	5	488.09	18	383.35	456.79
4. Broad, A. A.	Jersey ..	6	310.86	1	361.22	2	354.50	3	413.19	1	351.50	1	369.85	9	443.33	23	386.36	450.90
5. Harvey, T.	" ..	1	370.60	..	..	6	357.13	1	288.11	1	439.81	1	359.72	10	427.58	20	393.84	439.84
6. Payne, A. E. T.	Guernsey	4	290.75	2	372.52	4	374.35	1	352.61	3	371.58	..	..	6	413.13	20	367.58	436.58
7. Colenso, L. W. R.	Jersey ..	2	292.23	5	354.36	1	415.58	1	312.76	..	..	3	424.20	6	388.25	18	371.49	426.04
8. Huffer, J. A.	" ..	7	284.07	4	304.73	1	381.42	3	406.73	..	..	1	395.23	9	377.05	25	343.91	417.21
9. Thomas and Taylor	Ayrshire	7	289.68	1	306.84	1	309.55	..	..	3	344.35	2	432.53	4	389.25	18	338.85	413.41
10. Handbury, J. E. and Sons (No. 1 Farm)	Jersey ..	6	287.36	2	300.08	2	278.85	..	..	1	388.12	1	496.93	10	376.17	22	342.22	405.04
11. Evans, A.	" ..	4	253.67	2	310.33	1	321.67	2	305.74	2	358.86	..	..	9	394.48	20	341.82	399.82
12. Smith Bros.	" ..	8	266.98	..	..	2	356.79	2	351.15	3	358.80	..	..	5	337.73	20	315.84	393.84
13. Gardener Bros.	" ..	5	262.17	2	315.61	3	320.16	..	..	4	391.68	1	289.39	5	330.63	20	320.59	391.59
14. Lyon, W. H.	" ..	10	251.62	..	..	3	337.07	1	219.54	..	..	3	371.67	5	351.68	22	300.92	382.83
15. Rechenberg, J. F.	Ayrshire	8	242.02	3	246.91	3	242.17	..	..	1	300.28	1	295.07	8	289.49	24	263.11	340.11
16. Downie Bros.	" ..	4	240.21	1	174.72	3	295.20	2	251.47	2	260.62	2	329.32	9	289.37	23	274.27	331.86
17. Wallace, A.	Jersey ..	1	307.32	4	231.81	..	..	6	266.68	2	221.29	2	219.66	4	272.07	19	252.88	315.01
SECTION 3.—HERDS OF OVER 25 Cows.																		
1. Read, J. D.	Jersey ..	6	367.00	7	467.25	2	408.52	1	524.31	3	494.80	..	..	8	490.38	27	452.65	531.33
2. Atkinson, W. K.	Dairy Shorthorn	9	340.88	4	315.82	5	383.81	4	389.16	1	488.76	2	376.54	14	447.01	39	392.49	468.40
3. Nicholas, A. M.	Jersey ..	7	339.88	2	369.88	2	442.50	2	413.19	3	412.21	2	364.56	9	402.53	27	385.88	454.20
4. Wood, J. V. M.	" ..	24	307.20	2	362.42	4	362.42	2	314.68	..	..	2	394.87	5	442.72	37	336.63	445.94
5. Mailer, Dr. R.	" ..	4	286.27	7	355.64	2	318.43	6	358.84	1	414.98	2	393.92	9	430.79	31	371.11	444.03
6. Axford, W. H.	" ..	12	296.01	3	287.89	3	345.36	..	..	..	..	..	..	15	439.49	33	365.30	441.81
7. Knowles, T.	Ayrshire	8	263.61	6	264.53	7	326.98	1	329.16	1	351.77	1	297.02	6	428.92	30	317.64	407.54
8. McNabb, G. A. and Son	Jersey ..	12	243.87	5	304.24	2	357.12	5	347.95	2	243.27	3	349.87	12	354.15	41	309.45	391.90
9. Department of Agriculture	Red Poll	9	237.17	4	218.33	11	309.14	3	315.49	7	300.31	2	310.52	18	335.49	54	298.46	378.42
10. Henderson, W.	Ayrshire	..	..	7	284.74	..	..	4	319.38	8	302.81	4	316.03	6	372.27	29	316.93	377.63
11. Foster Bros.	Jersey ..	7	254.98	2	224.59	4	254.45	2	383.27	3	301.34	3	283.62	8	373.48	29	302.11	373.85
12. Middleton, E. M.	" ..	8	270.67	3	214.10	1	279.38	2	286.87	6	287.33	2	176.93	11	331.32	33	284.34	353.56
13. Moore, J. and Co.	" ..	4	237.25	4	213.21	5	255.33	4	248.02	4	309.06	5	310.58	13	307.32	39	278.42	343.56

Tobacco Investigations in Victoria

1935-36

By W. J. B. McDonald, B.Agr.Sc., Inspector of Agriculture.

RESULTS obtained from investigations into seed-bed and tobacco seedling problems have been reported in the May and June issues of this Journal. Less spectacular but equally important information is being obtained gradually from field experiments conducted at various centres to determine the methods to be followed in the production of a commercially profitable crop of high quality tobacco.

Of necessity, Victorian tobacco growers have concentrated firstly, on the production of a tobacco crop, and secondly, on the question of quality. However, the time is approaching rapidly when quality production must be obtained under all circumstances, and the objective of field experimentation is the accumulation of sufficient data to enable the formulation of methods that will achieve this desirable end. It may be stated, here, that the quality of Victorian leaf is definitely and rapidly improving. Seasonal conditions sometimes occasion a temporary check, but there is no denying the steady progress being made. We have, however, a long way to travel before we can afford to rest on our laurels.

The most justifiable and obvious criticism that can be levelled at Victorian grown tobacco in the present season relates to the amount of immature leaf present in otherwise first class sheds. Few growers can escape this indictment, but it is within the power of every grower to see that this leaf does not go on to the market until it has reached a mature condition. Up to the present, there has been little improvement of leaf in the bulk this season, and much of it could profitably be held until a later date or even until next season. Leaf that obviously is green should be destroyed. It is not worth shed room and never acquires good smoking characteristics. Smoking tests indicate that green leaf is the greatest menace to the popularity with the public of Australian tobacco.

Field Trials at Myrtleford.

During the 1935-36 season, growing conditions at Myrtleford fluctuated considerably. The planting-out season was particularly favorable and plants made luxuriant and rapid growth until the middle of December, when a dry spell intervened and crops which were not irrigated tended to wilt. Heavy rains, followed by warm muggy weather at the end of that month, resulted in a very severe outbreak of blue mould in the field. In places this was accompanied by other leaf spot diseases, notably *Cercospora* leaf spot, a disease common in Queensland but usually not occurring in southern plantations. This outbreak did a great deal of damage, but with warm, dry weather following early in the New Year many affected plantations made a sufficiently good recovery to yield a fair quantity of leaf.

The experimental area at Myrtleford was irrigated on the 13th December, a policy roundly condemned by many older growers, but all early plantings escaped with relatively little leaf damage although the plants were systemically infected with mould. Although there is insufficient data on which to generalize as to irrigation, the attention of growers is directed to the application of water as a possible means of avoiding excessive leaf damage from heavy field infections of blue mould. The October-March rainfall at Myrtleford over the period under review was as follows:—

—	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
	Points.	Points.	Points.	Points.	Points.	Points.
1st week ..	3	4	28	92	2	40
2nd week ..	133	102	13	108	34	4
3rd week ..	120	46	..	..	77	93
4th week ..	244	36	140	27	25	..
Total ..	500	188	181	227	128	137



Irrigating the experimental area at Myrtleford.

Irrigation water was applied during the following periods—December 13th-14th and January 25th-26th. The second application of water was made about one week prior to the commencement of the main pickings and after the bottom trashy leaves already had been picked.

Table I. sets out the yields and grading results obtained in pounds per acre of cured conditioned leaf from the standard fertilizer trials. It is well to remind readers that these manures were applied in furrows on exactly the same sites as similar applications were made last year, so we are beginning to de-

termine the cumulative effect of continued crop production under certain varying conditions. Whereas in the previous season there was little significant difference between the yields resulting from various manurial treatments, it will be seen that this year, that is the second year of continuous production, the effect of varying fertilizer applications is becoming marked.

The yield from unfertilized plots is definitely below the average for the series, while that from completely fertilized plots is definitely above the average. Where mixed manures are applied 5 cwt. of superphosphate per acre is regarded as a basal dressing. The application of either 150 lb. per acre of dried blood or

150 lb. per acre of sulphate of potash in addition to the 5 cwt. of superphosphate has not had a very marked influence on yield, except that the dried blood seems to have depressed the yield somewhat and the sulphate of potash to have increased it slightly. Where, however, the two in combination are added to superphosphate the yield has been definitely increased by approximately 200 lb. of cured leaf per acre and the quality of the production has been maintained.

The results appear to indicate that on ground similar to that used at Myrtleford—light river flat that has produced a number of

TABLE I.—STANDARD FERTILIZER TRIALS.
(Variety.—Hickory Pryor Seedlings from Swan Hill. Planted 20.10.35.)

Fertilizers.	Yield per Acre in lb.	Grading Results.			
		Brights, Including lb.	Mahoganys.	Dark.	Immature.
No manure	960	lb.	lb.	lb.	lb.
Super., 3 cwt. per acre	1,206	570	286	12	92
Super., 5 cwt. per acre	1,206	842	192	..	172
Super., 7 cwt. per acre	1,182	796	238	6	142
Super., 5 cwt. per acre, plus dried blood, 150 lb. per acre	1,188	800	238	10	140
Super., 5 cwt. per acre, plus pot. sulphate, 150 lb. per acre	1,082	686	250	6	150
Super., 5 cwt. per acre, plus pot. sulphate, 150 lb., plus dried blood, 150 lb. per acre..	1,228	802	268	10	148
Super., 5 cwt. per acre, plus pot. sulphate, 150 lb., plus dried blood, 150 lb. per acre..	1,388	920	344	8	116

TABLE II.—BROADCAST *v.* FURROW APPLICATION OF FERTILIZER.
(Variety.—Hickory Pryor Seedlings from Swan Hill. Planted 21.10.35.)

Treatment.	Total Yield.	Grading Results.			
		Brights. Including IB ₁ .	Mahoganys.	Dark.	Immature.
	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.
Super., 3 cwt. per acre, applied in furrows ..	1,206	729	208	3	266
Super., 3 cwt. per acre, broadcast	1,206	735	255	6	210

N.B.—In all tables the proportion of immature leaf shown is high. Grading, however, was very rigid, and it is anticipated that the trace of green that put the leaf into this grade will have been lost by the end of the selling season. The bulk of it will then reach the Bright class.

crops consecutively—the application of both nitrogen and potash together with superphosphate will prove an economic proposition.

Results both at Myrtleford and other Victorian stations tend to indicate that on virgin ground, or ground that has been spelled for a long period, there is likely to be little benefit obtained from the application of either nitrogen or potash. Results obtained at Myrtleford, both this year and last, indicate that on this class of ground the most economic application of superphosphate is approximately 3 cwt. per acre. It is probable that heavier ground would be served better by somewhat heavier dressings, say 5 cwt. per acre.



Manurial tests at Myrtleford, showing fertilized row between two unfertilized rows.

Mode of Application of Fertilizer.

The most suitable method of applying fertilizer frequently comes under discussion. Table II. shows the results obtained from applying superphosphate in a broadcast fashion as compared with applying it in furrows. In one instance the fertilizer was broadcast at the rate of 3 cwt. per acre about ten days prior to planting out, and in the second instance a furrow was opened and the fertilizer spread along it at the same rate per acre. The furrows were carefully marked and then filled in and the plants subsequently were set out exactly on the furrow line. Both areas of ground were

cultivated with a tined implement prior to transplanting.

It will be observed that the yield in cured leaf per acre from each set of plots is exactly the same and that there is little difference in the grading results from each treatment, any advantage there may be resting with the broadcast application.

Lime Tests.

At different times, in the North-East, lime salesmen have been particularly active. Generally speaking, soil reactions in this district tend toward the acidic or sourness. It must

TABLE III.—LIME TRIALS.
(Variety.—Conqueror Seedlings grown at Swan Hill. Planted 24.10.35.)

Treatment.	Total Yield.	Grading Results.			
		Brights, Including lb.	Mahoganys.	Dark.	Immature.
	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.
Lime, 10 cwt. per acre, 1934 and 1935 ..	962	382	376	64	140
No lime or fertilizer	1,050	402	404	40	204

be recognized, however, that some crops thrive in a slightly acid media, and the tobacco crop is of this type.

At Myrtleford a series of plots treated with lime only at the rate of 10 cwt. per acre was tested against a series that received no lime or fertilizer treatment of any sort. The resulting yield was slightly in favour of the unlimed plot, although it could not be said there was any significant difference between the two. (See Table III.)

Variety Trials.

The variety trials were interesting mainly from the fact that they gave some measure of the resistance or tolerance to the blue mould disease possessed by the various types in common usage. The amount of cured leaf obtained from the various plots has no significance at all, as the establishment of plants varied so widely in each case.

The figures given in Table IV. indicate the survival of seedlings from the original transplants of the varieties indicated. The seedlings concerned in this test were grown at

TABLE IV.—SHOWING SURVIVAL OF DIFFERENT VARIETIES.

(Seedlings from Walpeup in Northern Mallee. Planted 27.10.35.)

Variety.	Percentage of Transplants Surviving.	Percentage Normal.	Percentage Stunted or Abnormal.
	%	%	%
Dungowan ..	93	68	25
Flannagan ..	90	72	18
Hickory Pryor ..	76	57.5	18.5
Yellow Pryor ..	66	56	10
Gold leaf ..	20	16	4
Little Oronoco ..	15	8	7
Conqueror ..	6	5.5	0.5

Walpeup in the Northern Mallee from seeds sown at the same time and treated in a similar fashion. The seedlings were pulled after mould had appeared in this particular nursery and were all set out on the same day.

The survival figures under these circumstances can be taken as an indication of the relative resistance of the varieties concerned to blue mould, and it will be seen that the popular choice of Dungowan and Hickory Pryor is amply justified on this particular basis. (See Table IV.)

Topping and Suckering Trials.

Two varieties, Hickory Pryor and Conqueror were concerned in the topping and suckering trials. In both cases the results very definitely indicate the necessity of proper attention to this operation, although in the case of Conqueror there is an unduly high proportion of leaf classified as immature in the topped and suckered plots. This may be attributed in some measure to the fact that most of this leaf was cured together with the variety Hickory Pryor which moved somewhat faster in the barn. (See Table V.)

Plants from Seedlings grown under Gas.

Most growers now accept the suggestion that tobacco seedlings free from blue mould can be raised in beds protected with hydro-carbon vapours (gas). There still is, however, some doubt as to the way in which these seedlings will behave when set out in the field.

At Myrtleford last year, seedlings from framed beds protected with gas were planted out and compared with seedlings grown in framed beds not protected with gas. These plantings were made before mould appeared in the unprotected beds, although subsequently these control beds were totally destroyed by the disease.

Two varieties, Hickory Pryor and Dungowan, were concerned in this trial. All seedlings struck well and early growth was very good (see illustration.) Later in the season, a good deal of damage from field infections of disease occurred and the yield of commercial leaf was considerably reduced, but even so the yield from the seedlings grown under gas was appreciably above that of those planted out at the same time but not raised under gas. Experience at Myrtleford this year failed to disclose any unfavorable aspect in the field of seedlings grown under gas.

It is pointed out here that all seedlings set out at this particular period suffered somewhat from field infections with mould irrespective of their origin. The results of this test are shown in Table VI.

Thrips Infestation.

The thrips problem is one that can become very acute in Victoria's tobacco-growing areas if adequate precautionary measures are not taken.

In the 1934-35 season there was considerable doubt as to the origin of the thrip present at Myrtleford. In the 1935-36 season lines of seedlings, known to be thrip-infested at planting out, were set among rows of clean seedlings, and, as the season progressed, thrip infestation definitely spread from the infected rows to the clean rows. It is claimed confidently that, in the season just past, the bulk of thrip damage occurring resulted from the transplanting of



Seedlings raised under gas—seven weeks after transplanting.

thrip-infested seedlings. Such seedlings came mainly from the most northerly situated seed-beds, and the time has arrived when these areas will have to be avoided as seedling-growing districts or else adequate precautions against thrips taken in the seed-bed stage. This applies with equal force to the Pomonal growers.

CONTROL FOR THRIP.

It is suggested that where damage from thrips is liable to occur in the seed-bed, a fair measure of control could be obtained by dusting the plants with a nicotine dust containing 2 per cent. of nicotine. This material is preferable to a spray of nicotine sulphate, particularly in crowded seed-beds, owing to the more effective penetration of the dust in such

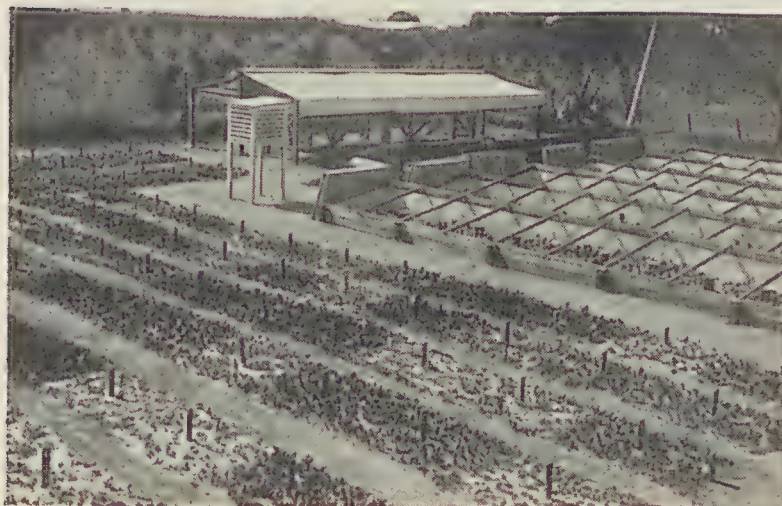
TABLE V.—TOPPING AND SUCKERING TRIALS.
(Planted 24.10.35.)

Treatment.	Variety.	Total Yield.	Brights, Including lb ₁ .	Mahoganys.	Dark.	Immature.
		lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.
Topped and suckered	Hickory Pryor ..	1,114	674	180	..	260
Untopped, but suckered ..	Hickory Pryor ..	972	512	148	..	312
Topped and suckered	Conqueror ..	1,227	637	196	42	352
Untopped, but suckered ..	Conqueror ..	892	468	206	28	192
Untopped and not suckered ..	Conqueror ..	814	448	174	7	185

TABLE VI.—TRIALS WITH SEEDLINGS GROWN UNDER GAS—MYRTLEFORD.
(Planted 14.11.35.)

Treatment.	Variety.	Percentage of Transplants Surviving.	Percentage Healthy.	Percentage Stunted.	Total Yield of Cured Leaf.
		%	%	%	lb. per acre.
Seedlings grown under gas ..	Dungowan ..	94	73	21	936
Seedlings not grown under gas ..	Dungowan ..	91	66	25	615
Seedlings grown under gas ..	Hickory Pryor ..	97	89	8	518
Seedlings not grown under gas ..	Hickory Pryor ..	97	85	12	427

N.B.—The leaf grown from both gassed and ungassed seedlings graded out in much the same fashion.



Tobacco seed-bed experiments 1935-36.

circumstances. The dusting should be sufficiently liberal to ensure a general coating of the leaf surfaces. It may be necessary to repeat this application several times to cater for successive broods of thrip. The young thrip should be destroyed shortly after they emerge from the egg.

Residual Effect of Fertilizers.

This report would not be complete without recording a point of considerable interest to growers in relation to the residual value of fertilizers.

In the 1934-35 season, a shortage of seedlings resulted in an inability to plant up an area of ground that had been set out as a fertilizer trial and on which the various fertilizers had been applied. This ground was kept clean by cultivation and planted out in 1935-36 without further addition of fertilizer. There was no obvious advantage accruing to the 1935-36 crop from the fertilizers applied in 1934-35, the average yield over this series of

plots being 750 lb. per acre, which was no better than the average of the unfertilized portions of it.

Trials at Pomonal.

Field problems at Pomonal essentially are very different from those of the North-East. The North-East naturally produces a luxuriant growth, the Pomonal grower has to promote it; North-Eastern leaf has naturally a full colour, Pomonal leaf is inclined to be negative. Given adequate water supplies, the type of leaf produced at Pomonal could be determined largely by the grower, as both the quantity and quality of

production is more subject to fertilizer influence at Pomonal than in any other recognized tobacco-growing area in the State. While water supplies remain inadequate, however, droughty conditions mask the control the grower otherwise could exercise.

During the 1935-36 season, the experimental plots at Pomonal South suffered much damage from localized flooding and quantitative results cannot therefore be given; very interesting qualitative results, however, were obtained both from the plots and from bulk trials carried out on Mr. J. K. Rawlings' crop. Quantitative results, however, are available from a variety trial concerning only three varieties, namely, Warne, Conqueror, and Dungowan Selection. The Conqueror was the most attractive leaf of the three by far, being possessed of good colour and body and weighing well after curing. The Warne possessed good colour but was of rather a harsh boardy character, while the Dungowan Selection was of good colour but very papery in texture.



Showing the type of cover used by the Department on framed seed-beds.

Grading results expressed in pounds of cured leaf per acre are shown in Table VII.

Weights of leaf obtained from the manurial trial have no significance and therefore are not included, but the following notes on the type of leaf produced are of interest:—

(1) Superphosphate, 4 cwt., castor meal, 5 cwt., and 150 lb. of potassium-sulphate per acre produced leaf of good colour and body.

(2) Superphosphate, 4 cwt., castor meal, 5 cwt., and 150 lb. nitrate of soda per acre produced poor greenish-coloured leaf.

(3) Superphosphate, 4 cwt., castor meal, 5 cwt., and 100 lb. ammonium-sulphate per acre produced leaf of fair colour and body but not equal to No. 1.

(4) Superphosphate, 4 cwt., and 150 lb. dried blood per acre produced leaf of good colour and body.

(5) Superphosphate, 4 cwt., and 150 lb. potassium-sulphate per acre—poor greenish leaf.

(6) Superphosphate, 4 cwt. per acre—poor greenish leaf.

(7) Superphosphate, 4 cwt., and 100 lb. ammonium-sulphate—leaf of fair colour and quality.

(8) No fertilizer produced poor greenish and slaty coloured leaf.

In Mr. Rawlings' bulk crop, portion of it was produced with superphosphate alone as the fertilizer, and portion with 5 cwt. of castor

meal per acre added to the phosphate dressing. That portion of the crop fertilized with castor meal was of very much better quality than that treated with superphosphate only, especially in the lower grades, where a nondescript type of leaf was replaced by leaf showing definite character and color.

During the last two seasons, nitrogen applied in an organic form, such as dried blood or castor meal, has added greatly to the quality and quantity of leaf produced at Pomonal

South, and growers on this type of soil, light reddish coloured sands, overlying sandstone clay, conglomerate at about 20 inches, are recommended to, at least, experiment with this type of fertilizer. A basal dressing of superphosphate at the rate of about 3 cwt. per acre must be maintained in addition to the nitrogenous fertilizer.

There are also indications that on ground that has produced a number of crops, potassic fertilizers may add something to the value of production. It is hoped to conduct more detailed work with this fertilizer in the coming season.

Readers are warned that the work discussed in this report has been in progress for a short time only, and, as results over a greater period of years become available, suggestions or recommendations made now may have to be modified. They are furnished, however, after careful analysis of all the local data available.

Technical readers are advised that experiments are designed on a randomized block basis, each plot consisting of 50 plants in a single row and each treatment being replicated five times.

The co-operation of Mr. James Milne of Myrtleford and Mr. J. K. Rawlings of Pomonal in the conduct of these experiments is gratefully acknowledged.

TABLE VII.—VARIETY TRIALS—POMONAL.

Variety.	Total Yield.	Brights.	Mahoganys.	Inferior Brights.	Immature.	Bright Scrap.	Dark Scrap.	Green.
	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.	lb. per acre.
Conqueror	719	387	67	72	49	68	13	63
Warne	609	369	65	36	36	49	..	54
Dungowan Selection..	693	315	36	41	36	175	..	90

Butter Production and Export

The following tables show:—

- (a) Factory production of butter and cheese in Victoria for the period July, 1935, to February, 1936, and for the months of March, April, May, and June, 1936, compared with the corresponding periods of 1934-35; and
 (b) Quantities and percentages of various grades of bulk butter examined in Victoria from 1st to 25th July, 1936, in comparison with the corresponding period of 1935.

(a) FACTORY PRODUCTION OF BUTTER AND CHEESE IN VICTORIA (QUANTITIES IN TONS).

Month.	Butter.		Cheese:	
	1935-36.	1934-35.	1935-36.	1934-35.
July to February (inclusive)	52,747	49,178	3,859	3,282
March	3,590*	4,401	264	307
April	2,853*	3,933	223	320
May	2,407*	3,414	198*	314
June	2,137†	2,940	196†	290
Totals, twelve months	63,734	63,866	4,740	4,513

* Revised.

† Subject to revision.

(b) BULK BUTTER EXAMINED FOR EXPORT IN VICTORIA (QUANTITIES IN TONS):

Period:	1936-37.					Period.	1935-36.				
	How Graded—				Total.		How Graded—				Total.
	Choice.	1st.	2nd.	Pastry.			Choice.	1st.	2nd.	Pastry.	
1st July to 25th July	30	9	15	2	56	1st July to 27th July	576	178	55	5	814
Percentages ..	53.6	16.1	26.8	3.5	..	Percentages ..	70.7	21.9	6.8	0.6	..

Sheep Owners Protection Act.

Prosecution for Offence.

The first prosecution under the Sheep Owners' Protection Act was taken at Edenhope Court of Petty Sessions on August 26th, when G. Nickel, a Motor Truck driver of Horsham, was charged under Section 5 of the Act with carrying sheep on his motor truck on the 1st July at Edenhope without the necessary permit under the Act.

Evidence was given by First Constable Gosling of Edenhope, that he intercepted the defendant in Edenhope on 1st July, when he was driving a motor truck and trailer on which were 108 sheep. Nickel said that he did not have a permit, but admitted that he knew that one was necessary.

Defendant was convicted and fined £3 with 30s. costs.

Potato Diseases of Victoria

Methods for Control

Compiled by the Biological Branch, Department of Agriculture.



Fig. 1.—Potato Plant affected with Leaf-Roll Virus.

OVER the past 40 years the average yield of potatoes in Victoria has declined to the extent of one ton per acre. For the ten-year period ending 1895, the State's average yield was 3.56 tons per acre, whereas the average during the ten-year period ending 1935, was only 2.54 tons per acre. This decline in acreage yield can be attributed in no small measure to the cumulative effect which certain potato diseases have on yield.

It has been generally established that the so-called "running-out" or "degeneration" of potato varieties is due to the presence in the stocks of virus diseases (see Fig. 1). As a group these are characterized by symptoms of curling, rolling, crinkling and mottling of the leaves and general dwarfing of the plant. Usually it is not possible to detect any symptoms of disease on the tubers themselves. A detailed description of the many virus diseases which occur in Victoria will not be attempted here. The symptoms of each virus disease vary with the variety, the

environment and the age of the plants. Some varieties are known to carry a virus without showing any external evidence, this instance being a parallel with the well-known phenomenon of the diphtheria carrier in humans.

To understand the principles involved in the control of this class of disease, it is important to know a little of the nature of these viruses and their behaviour in the growing potato plant. While we cannot say precisely what these viruses are, it is sufficient for our purposes to regard them as disease-producing agents or parasites of such minute size as to be quite invisible even with the highest powers of the microscope. These virus particles are always present in the juice or sap of such diseased plants and are usually carried to healthy plants by sucking insects such as aphids, so that the healthy plants become diseased in turn.

In this regard it is helpful to note the similarity between the method of spread of virus diseases with that of malaria in man. Malaria is spread

by the *Anopheles* mosquito, which after feeding on the blood of a diseased person takes the diseased blood containing the parasites and injects them into the next healthy person it "bites." The viruses responsible for the various potato diseases are present in the tubers, stems and foliage of diseased plants. Spread within a crop is accomplished by sucking insects which, after feeding on the foliage of diseased plants, take the diseased sap and transfer it to surrounding healthy plants. Having gained entrance into the plant in this way the virus multiplies and spreads to all parts, ultimately reaching the tuber. Unlike a number of potato diseases, virus diseases do not over-winter in the soil, but are carried over from season to season in the sap of tubers from diseased plants.

The control of these virus diseases lies primarily in the selection and use of seed from crops which are comparatively free of "leaf roll," "crinkle" or mosaic plants. In other countries where seed-certification schemes are in operation, the use of virus-free stock has been shown to give an immediate increase in yield. A seed-certification scheme involves the production and distribution of seed potatoes from crops which conform to a reasonable standard of freedom from virus diseases and are, therefore, of high cropping power. New Zealand experience has proved that a grower with certified seed may expect a 25 per cent. greater yield than a grower using uncertified seed.

For several years the department has had prepared a certification scheme on the lines of those in force in other countries, but this has been held in abeyance pending indications that growers were sufficiently seized with the importance of using virus-free seed to ensure that the expense involved in operating such a scheme would be warranted.

Apart from these virus or degeneration diseases, there are other types of disease which are caused by fungi, bacteria and insects. These also have played and are still playing their part in reducing not only the yield per acre, but also the quality, and, together with the degeneration diseases, have substantially increased the cost of production of potatoes. Many of these troubles are carried over on seed potatoes and in the soil, and the use of clean and healthy seed, together with crop rotation offers a general means of combating most of them.

The more important of these diseases and pests are dealt with in this article which is presented to growers mainly with the view of outlining the state of existing knowledge on the nature and

control of potato diseases and pests which occur in Victoria. It is considered that the wider application of these known control measures by growers, would lead to a considerable reduction in losses from these causes. It must, however, be pointed out that much work yet remains to be done in improving still further our knowledge on the control of the diseases and pests of the potato.

Rhizoctonia.

Rhizoctonia is widespread throughout the potato-growing countries of the world. It was first recorded for Victoria in 1903, but is now present in all Victorian potato-growing districts where it is annually responsible for damage estimated at from 10 to 15 per cent. of the crop. This damage would cover not only losses of yield due to plants dying out from this cause but also that due to the production, on the tubers, of sclerotes or "dirt-like" bodies to such an extent as to render those tubers unfit for market.

SYMPTOMS.

The most common manifestation of this disease is the appearance on the tubers of the "dirt-like" specks, which will not wash off (Fig. 2). These specks, or sclerotia, consist of closely aggregated minute fungus threads (Fig. 3). They vary greatly in size—from mere pin points to half an inch across. They are very resistant to unfavorable conditions and are the means by which the fungus



Fig. 2.—Black sclerotes of the *Rhizoctonia* fungus on tuber.

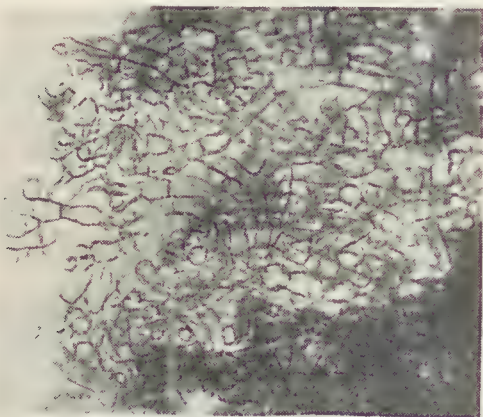


Fig. 3.—*Rhizoctonia*—Section through a sclerote showing threads of the fungus.

over-winters and by which it is spread from district to district.

When infected tubers are planted, the fungus commences to grow along with the tuber. The sclerotia "germinate" and send out fungus threads which attack the young sprouts of the potato at the tip with the result that the sprouts are killed or "burnt off." The plant may send out further sprouts lower down the same stalk, and these also may be attacked and destroyed, the process being repeated as long as suitable moisture and temperature conditions exist. In extreme cases, four or five successively weaker sprouts may be destroyed; thus emergence of the shoots above ground may be delayed, or none



Fig. 4.—*Rhizoctonia*—showing dead sprouts from an infected tuber.

of the shoots may be able to reach the surface, (Fig. 4) in which case missing hills result. This greatly reduced stand is one of the most serious features of the *Rhizoctonia* disease.

If infection takes place later in the growth period, symptoms of typical "collar rot" are produced (Fig. 5). The stalk just below ground level may be attacked, when it turns brown in color.

Other symptoms may occur in the above-ground portions of plants showing collar rot. The girdling of the stem close to the surface of the ground may also cause the production of aerial tubers, and, in other cases, the topmost leaves may present a rosette appearance (Fig. 6).



Fig. 5.—Typical "collar rot" lesions of *Rhizoctonia* disease.

Late in the season, the young leaflets may develop a yellow discoloration which is often accompanied by a rolling inwards of the leaves. This symptom gives affected plants a stiffly erect attitude, and exposes the somewhat lighter colored undersurfaces of the leaves, enabling such plants to be picked out at a distance.

If very wet weather occurs later in the season, the fungus enters upon another phase of its life history. A delicate web of greyish white fungus threads is produced around the stems, a short distance above ground level. This represents the reproductive stage of the fungus, called *Corticium vagum*.

The tubers are attacked by delicate threads of the fungus growing from the infected stalks or stolons; when the sclerotia, already mentioned, are produced. The injury resulting from rhizoctonia is very variable. Sclerotia do not penetrate the skin and are removed when the potato is peeled, so that tubers showing abundant sclerotia are not really injured for table use, although their value is somewhat lessened because of the disfiguring effect. For seed purposes, however, their value is definitely lessened, as they may carry the disease into clean areas. It has been stated that the fungus may attack the tuber in other ways, producing a pitting on the surface, or, in severe cases, an actual cracking.

Under conditions where severe sprout and stem infection occur, the crop may be expected to suffer both as regards yield and quality of tubers produced. The fungus appears to be capable of remaining viable in the soil for a number of years. The disease therefore may be contracted either from the fungus already present in the soil or by its introduction with the seed.

The fungus causing rhizoctonia disease of potatoes has been recorded as attacking approximately 80 other species of plants, including a number of economic importance. The fungus is also a common cause of "damping off" of seedlings. Among the plants which have been recorded as hosts for the fungus in various parts of the world are beet, lucerne and clovers, carrots, celery, cabbage, cauliflowers, peas, onions, turnips, radish, parsnip, strawberry, lettuce, rhubarb, beans, tomato, spinach, maize, tobacco, and cereals.

The most important factor influencing the incidence of rhizoctonia disease appears to be the temperature of the soil, particularly during the early part of the growing period. The greatest degree of infection and injury occurs at a temperature of 64° F. The temperatures most favorable to rhizoctonia injury are also most

favorable to the growth of the potato plant. In addition, the fungus seems to grow best in slightly acid soils.

CONTROL MEASURES.

In any recommendations for the control of rhizoctonia, the two sources of infection, i.e. infected soil and contaminated seed, must be borne in mind. The following measures are recommended:—

1. **Rotation.**—The practice of growing any crop continuously on the same area is very undesirable, as it leads to an accumulation of pathogenic fungi, affecting that crop in the soil. The problem of selecting a suitable crop for rotation purposes is difficult, for, as indicated above, most of the economic crops act as hosts for the disease.



Fig. 6.—"Rosette" of potato plant due to Rhizoctonia.

Where practicable, the land should be left in fallow for a year. Clean areas, of course, should be selected where possible.

2. Selection of Seed Potatoes.—Where possible, only disease-free potatoes should be used for seed, those showing sclerotes being discarded for this purpose. This practice lessens the chance of heavy infection, and prevents the introduction of the fungus into clean areas. Where the land is already infected, however, selection alone is not successful in obtaining disease-free crops.

3. Use of Sprouted Potatoes.—The best way to avoid "misses" is to use for planting only seed potatoes which have been sprouted in boxes. By this method, the grower can eliminate any which are defective or weak.

4. Seed Disinfection.—It has been found that the practice of seed treatment by one of the dips described below generally results in an increase in yield, and should therefore be adopted as a general practice by growers, even though their seed is apparently free from disease. Seed treatment is very satisfactory in the control of the seed-borne aspect of rhizoctonia scab, and it has been shown to be highly efficient in the control of "collar rot" symptoms. Under ordinary conditions, however, where soil infection is present, no treatment gives complete control.

(a) *Cold Formalin.*—For potatoes that have not sprouted, and are uncut, the solution should consist of 1 lb. of formalin to 20 gallons of water, the time of immersion being $1\frac{1}{2}$ hours. If the tubers are presoaked before treatment (i.e., dipped in bags in water one or two days before treatment and then kept moist) the time of immersion in the formalin may be reduced to half an hour. The formalin solution retains its strength, but more solution should be added after each lot is treated to bring it up to its original volume. Where the potatoes have sprouted before treatment, the strength of the solution should be reduced to 1 lb. to 30 gallons, as the higher strength burns the sprouts, and, although they will come again, they will not be so strong as the first sprouting. After treatment, the tubers should be spread out thinly to dry. Unlike corrosive sublimate, formalin does not corrode metals, and thus can be placed in any convenient container.

(b) *Acid Corrosive Sublimate.*—The use of acid corrosive sublimate provides the most satisfactory method for controlling seed-borne potato diseases, being more effective than the formalin method. The solution is made up as follows:—

Dissolve 4 oz. of corrosive sublimate in two pints of commercial concentrated hydrochloric

acid. This solution is then diluted with water in a wooden barrel so that the final volume is 25 gallons. The solution should not be made up in a metal or concrete container, but in one made of wood or earthenware. The time required for treatment is ten minutes. This solution may be used for ten dippings. If the time of treatment is then increased to fifteen minutes the solution will be effective for a further five dippings. The potatoes should not be dipped in bags, but in a wooden crate, which should be made so as to fit inside a large wooden barrel. In order to prevent injury to the seed, treatment must be carried out before there are any signs of sprouting, preferably some months before planting. After dipping, the potatoes should be rapidly dried. Twenty-five gallons of the above dip will treat about one ton of seed and will cost approximately 3s. for the chemicals.

Caution.—Corrosive sublimate is extremely poisonous to human beings and animals and should be handled with caution. As it is odorless, colorless and practically tasteless, great care should be exercised in the disposal of the solution after treatment. As frequent wetting with the acidulated dip may cause some irritation of the hands it is advisable to use rubber gloves during the dipping operations. Dipped potatoes, of course should not be used for table purposes or for stock feed.

EELWORM SCAB.

In some Victorian potato-growing districts, notably Ballarat, Daylesford, Romsey, and Gippsland, considerable damage is caused to potato crops each year by the eelworm (*Heterodera marioni*) and in these districts up to 30 per cent. of the potatoes may be rendered unfit for market as the result of the nodular swellings on the tubers which are caused by this microscopic worm.

This organism was first recognized as a parasite of plants in 1855 in England. Since that time the worm has been recorded from practically every country in the World, and in addition to potatoes, has been recognized as the cause of a "root knot" in over 850 different species of plants. In Victoria the organism was first recorded on potatoes in 1890.

SYMPTOMS.

Potato tubers affected with eelworms are easily detected by the presence of nodular or wart-like swellings on their surfaces (Fig. 7). Often these are few in number, but in severe cases, the entire surface of the tuber may be covered with these

protuberances. The female worms, which cause these swellings, are found in clear areas, embedded in the tissues of infected tubers when cut across.

The effect of eelworm attack on the above-ground portions of the plant may be very slight. Sometimes the plants are slightly stunted, but, under other conditions, although the tubers may be heavily infested, the plant may appear normal.

LIFE HISTORY OF THE EELWORM.

Potato plants may become affected by growing them on an area already infected with eelworms, or by the introduction of eelworms into the area, on seed. The eggs of the eelworm are very minute, being invisible without the use of a strong lens.



Fig. 7.—Tuber affected with eelworm, showing typical wart-like swellings.

These hatch into small larvae, which are round and thread-like and very minute (Fig. 8). The larvae then make their way to the still undeveloped tubers, and penetrate the skin, taking up a position just underneath the surface. Where the larvae hatch from eggs in infected tubers, they first burrow out of the old tuber into the surrounding soil, and are then able to enter other plants. The larvae are capable of travelling short distances in the soil by their own exertions. Before penetration into the tubers, the sexes are indistinguishable, but after this stage they become distinct. While the male remains round and thread-like, the female, after fertilization, enlarges

enormously and becomes somewhat bladderlike. It has been found that a single female may lay as many as 500 eggs. Most of these generally remain inside the body of the female, which virtually becomes a sack of eggs.

The wart-like protuberances on the potato are produced as a result of the irritation set up by the eelworm in the tubers. The eggs and larvae may survive in the soil for a period up to two years. Owing, however, to the enormous number of different species of plants known to be attacked by the worm, and to the fact that this worm does not exhibit any marked degree of specialization as to the particular plants it is capable of attacking, it is very probable that the worm will remain indefinitely in any infested area, unless proper steps are taken to control it. Usually, many of the common weeds growing on the area act as hosts for the worm, and ensure its carry-over from season to season.

Drying is fatal to the eelworm, so that wind does not play any important part in the dissemination of this organism. Its spread may be brought about by means of water, although the most important means by which it is introduced into clean areas is by the use of contaminated seed.

Control Measures.

A considerable amount of work has been done in the control of eelworms in various parts of the world. Many of the methods suggested, however, such as chemical treatment of infected areas, are so expensive as to be impracticable on a commercial scale. The following methods, while not completely eradicating the pest, have definitely proved of value in its control.

(1) *Fallow*.—It has been shown that a two-year fallow is very satisfactory in the control of eelworm in the soil. It is absolutely essential, however, that all weed growth be rigorously suppressed, as this, in all probability, will harbour the organism and so defeat the purpose of the fallow. If this is done, the larvae of the eelworm will be starved to death, as they are unable to live for any considerable time in the soil without the food material supplied by some living plant.



Fig. 8.—Larva of the potato eelworm, magnified 200 times. [After Cobb.]

While this method is the most satisfactory control measure available, it is unlikely that it would be adopted on economic grounds in Victoria.

(2) *Rotation*.—Growers have found that serious attacks of eelworm have followed the practice of growing potatoes continuously on one area. In addition, eelworms often cause severe losses in potatoes following pasture. This, of course, is due to the fact that many pasture plants are hosts for the worm, and so enable it to persist, and even multiply, in the soil. Any crops grown in rotation with potatoes, should, if possible, be immune to attacks of eelworms. Owing to the enormous host range of *H. marioni*, the number of such plants which are suitable for rotation purposes is very limited. Most varieties of rye, wheat, and oats are resistant to attack, and it has been observed that, under Victorian conditions, a rotation in which oats is incorporated with potatoes, particularly as a green feed crop, gives a satisfactory control of eelworms.

(3) *Seed Selection*.—Owing to the difficulty of completely eradicating eelworms, once they are established in the soil, growers should take every precaution to ensure that they do not introduce the pest into any area by means of infected seed. All seed showing the characteristic wart-like swellings typical of eelworm attack, should be discarded for seed purposes and only clean seed should be used for planting.

THE POTATO MOTH.

The Potato Moth (*Phthorimaea operculella* Zell.) is an introduced pest which is now present to a more or less extent in every potato-growing district in this State. It was first recorded, as far as Australia is concerned, from Tasmania in 1854, but did not reach the mainland until some time later. It is now present in all of the Australian States where potatoes are commercially grown.

In addition to potatoes, the Potato Moth is known to attack such crops as tobacco and tomatoes, and in addition solanaceous weeds such as Nightshade (*Solanum nigrum* L), Thorn Apple (*Datura stramonium* L), and White Henbane (*Hyoscyamus albus* L).

IMPORTANCE AND TYPE OF INJURY.

It is generally accepted that losses from this insect are most severe in hot and dry seasons, these conditions being most favorable for tuber infection in the field. Such a season was experienced in 1933-34 and 1935-36. In years favorable to potato moth, damage to early crops of up to 50 per cent. has occurred. Injury to the potato crop may take two distinct forms—

- (a) to the growing plant, and
- (b) to the tubers.

(a) *The growing plant*.—The injury to the growing plant is manifested by the larvae or grubs "mining" into the leaf and tunnelling in the stems. (Fig. 9). As a rule, the young larvae, hatching from eggs deposited on the leaves, commence to "mine" in the leaf. As these larvae grow, they become too large for "mining" in the thin leaf, and if there is not another leaf nearby to tie up so that they may work in a protected space, they either roll the leaf or enter the petiole or leaf stalk. Once started in the petiole the larvae rapidly works its way to the main stem, which it begins to tunnel. The larva generally works downward in the stem, although, in a few cases where the stem is thick it may turn and work upward.



Fig. 9.—Showing mining of leaves, petioli, and stem by larvae of Potato Moth.

[U.S.A. Bull. 427.

Where this type of damage occurs generally over a field while the potato plants are young, considerable injury may result to the crop through a general weakening of the plants.

(b) *The Tubers*.—Damage to the tubers may also occur in the field if they become exposed while growing, or if they are allowed to remain in the field any length of time after harvesting. Serious infestation of the tubers may also occur after they have been stored in a shed, bin, or stack. (Fig. 10). In storage, the insect may continue to reproduce as long as the potatoes contain enough food to mature the larvae or grubs.

Where tubers are infested in storage the point of infestation is usually at the eyes, where the eggs are actually laid. (Fig. 11). Thus potato moth damage in stored tubers is usually noted at the eyes. The larvae or grubs at first work just under the skin of the potato, but later tunnel through the tubers, filling the tunnels with excrement and permitting the invasion of the organisms of decay.



Fig. 10.—Tuber infection by Potato Moth.

The market value of such potatoes is considerably reduced, and, in addition, seriously affected tubers are not recommended for seed purposes.

LIFE HISTORY.

In the field, eggs are deposited in the spring on the underside of the foliage of young potato plants. Each female moth is capable of producing up to 300 eggs. These eggs may hatch in from 5 to 34 days, depending on temperature conditions.

The young larvae or grubs emerging from these eggs are quite active and commence feeding almost at once. They seldom move far from the place where they hatch before they begin to burrow. The period that may elapse in the larval stage will vary from 13 to 27 days, depending on climatic conditions. The fully-grown larva measures slightly less than $\frac{1}{2}$ inch long, and is pale greenish white in colour.

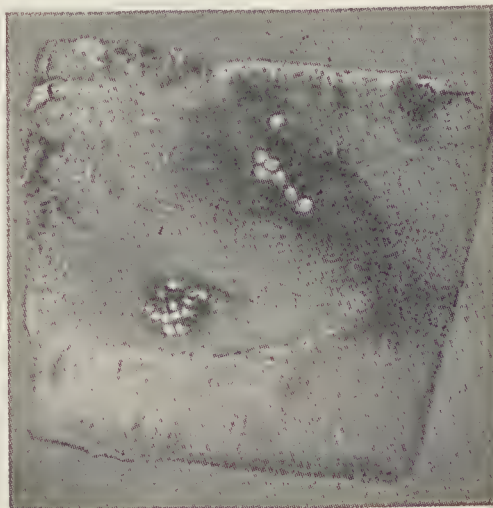


Fig. 11.—Eggs of the Potato Moth on surface of Tuber. [U.S.A. Bulln. 427.

When the larva is fully grown, it spins a cocoon prior to pupating. This pupal stage may be found in the field, (1) in curled dried leaves on the plant, (2) under clods and rubbish, and (3) protruding from old burrows in the stem. The majority of the pupae, however, will be found in dried leaves clinging to the potato plant. The period spent by the insect in the pupal stage varies from 8 to 56 days, depending on temperature conditions.

The adult insect, the moth, is generally grey in colour, with a wing spread of a little more than half-an-inch. The fore wings are more or less spotted and mottled in appearance, while the hind wings are narrower and buff in colour. Under field conditions, the habits of the moth are well adapted to protect it until eggs are deposited. During the day, the moths hide beneath rubbish, or, if the fields are clean, under clods of earth. They seldom fly in the field during the brighter hours of the day, unless disturbed, and then the flight is short and jerky, and on alighting, they seek concealment. Activity is most marked during warm nights, when egg-laying is most abundant. The majority of the eggs are laid by the fourth night after emergence.

In storage, development may occur throughout the whole year, but is most general during the warmer months. The eggs are usually deposited in the eye or a rough scar on the potato, and as many as thirty may be found in one eye. In sprouting potatoes, the eggs are often placed in circles around the base of the sprout. While it is usual in the field for the eggs to be deposited during the evening, night, or early morning, in darkened bins, and in cool weather, oviposition may take place at all hours of the day. When the eggs on the tubers hatch, the larvae commence to feed at the spot where the egg was laid, since the irregularity chosen by the moth for egg-laying affords a favorable location for starting a tunnel. For this reason, the damage to potatoes first becomes evident in the eyes. The fact that the entrance hole is very small and webbed over, makes it difficult to detect infestation in potatoes shortly after the eggs have hatched.

After a few days a pink coloration may be detected around the injured eye, and closer examination reveals the presence of excrement held in the web at the entrance of the burrow. The larvae first burrow straight through the skin and into the substance of the tuber. Some then turn their mines so that they follow close under the skin of the potato. Later the skin of the potato partially dries and sinks, so that the scar becomes very prominent. This type of damage is the most noticeable, but is not so injurious to the tuber as the deeper channel; and, as it dries out more easily, is not so apt to be the cause of rot.

The channel of the tuber moth larva is, as a general rule, deeper and may even go through the centre of a large potato. This form of injury is more difficult to detect from the outside than the other form and, from its greater injury to the potato is more important.

The burrows or galleries generally measure 1 to 3 inches in length and are quite winding. The portion occupied by the larva is fresh and white, but the older parts are covered with a matlike brown fungus and often are partially filled with excrement.

The immediate effect of the potato-tuber moth on the potato is in the reduction of its market value. This takes place in two ways:—

- (1) by ruining the substance of the part of the potato actually attacked; and
- (2) by causing the entire tuber to be unsightly and, therefore, unsaleable.

The larvae sometimes cause decay in the tubers, but when this takes place the infestation is

generally so heavy and the injury so far advanced that the tubers have ceased to have value, either for food or for seed.

When the larvae are fully grown in stored potatoes, they may spin their cocoons and pupate in any one of the following places:—(a) in the eyes of the potatoes; (b) between potatoes, where they actually touch; (c) between potatoes and bin walls; (d) between potatoes and sacks; (e) in folds of sacks; (f) in cracks in bin walls; (g) in rubbish on floors; (h) in the end of burrows with cocoon partly protruding and (i) in old burrows under dry skins of potatoes.

There are generally upwards of five or six broods of potato moths in one complete season.

DISSEMINATION.

The tuber moth is disseminated by two means, natural and artificial. Of these, the former, by flight of the moth, is much the slower, and, as it can hardly be controlled, is relatively unimportant. The most important spread of the potato moth takes place through the movement of infested seed potatoes. In this way, the insect is assured of an abundance of food.

Control Measures.

Control measures should be commenced during cultivation. Where flat cultivation is the usual procedure, the sets should be planted deeply and the surface of the soil kept well worked in order to prevent the possible movement of moths down into the soil to the tubers later in the season.

Where hilling is the practice, it should be done with care, so that all tubers are well covered with well pulverized soil free from clods.

While both of these practices are of importance in a normal season when the potato moth infestation may be normal, they are of very much greater importance in a hot, dry season, when potato moth damage usually is most acute. One reason for this is that the dry conditions existing make for the cracking of the soil, thus providing means by which the potato moths are able to move down into the soil, and lay their eggs on the developing tubers, thus commencing an infestation which is later extended to the storage areas. The repeated workings of the soil will tend to prevent the formation of these cracks.

When the potatoes are dug, they should be bagged without delay; if they are left exposed even for a short while, infestation is sure to follow. Many growers after filling the bags and before sewing them, cover the mouth of the bags with the potato tops probably to shade them

from the sun. This practice cannot be too strongly condemned, as moths may be lurking in the haulms and will leave them to lay eggs on the tubers while any larvae in the tops will leave this material as soon as it withers and move to the tubers. The bags should be sewn up immediately after filling and removed without delay to suitable storage. If it is not convenient to remove them for some time, they should be placed in stacks and closely covered with a tarpaulin. All stalks and foliage should be gathered and completely destroyed as soon as possible.

Many growers think that stored tubers are immune from attack. This is not the case; more damage is done while in store than elsewhere, but if suitable storage is provided, the ravages of the moth can be better controlled than in the field.

Frequently potatoes are stacked loose in an open shed on the farm, and no precautions taken in the way of securely covering them. This is a practice which lends itself to rapid contamination of the tubers by potato moth. If potatoes are to be stored on the farm, they should be stored in such a way that fumigation is readily possible. This is best accomplished by having the potatoes bagged, so that they can be covered with a tarpaulin and fumigated.

Fumigation.—The bagged potatoes to be fumigated should be stacked and covered with canvas or a tarpaulin, the edges of which must be securely fastened down. Before fastening down, carbon bisulphide is introduced on to the top of the stack, but under the canvas, at the rate of 5 lb. of carbon bisulphide to every 1,000 cubic feet of space, including the space occupied by the potatoes. Such a fumigation should extend for 36 to 48 hours, depending on the intensity of infection and should be repeated in 10 to 14 days, in order to destroy any insects that may have emerged since the earlier fumigation.

If the tubers are stored loose in a shed, they can be fumigated in the same way as described above, providing that the floors and walls of the shed are gas tight. The tubers should be covered with a tarpaulin and fumigated as above. If the potatoes have to be stored in a shed which is not readily fumigated, they should be kept covered as securely as possible with some suitable closely-woven material and examined at intervals for moth infestation.

Reject potatoes should not be allowed to lie in the field or in heaps in the corners of paddocks throughout the winter as they form a nucleus for an infestation in the following season, not only to the grower concerned, but also to his neighbours.

The control measures suggested for this pest may be summarized as follows:—

- (1) It is undesirable to plant seed infested with moth.
- (2) Plant deeply, cultivate thoroughly and hill-up so that the tubers do not become exposed.
- (3) After digging, bag the potatoes as soon as possible. Do not cover the open mouth of the bag with the haulms, but sew the bags at once.
- (4) Remove the bagged potatoes from the field as soon as possible after harvesting.
- (5) Destroy all weed plants that may serve as host plants for the potato moth, e.g., Nightshade, &c.
- (6) Should the tubers become infested with the potato moth, they should be fumigated in a suitable shed or under a tarpaulin with carbon bisulphide at the rate of 5 lb. to every 1,000 cubic feet of space for a period of 36 to 48 hours. It will be necessary to repeat this fumigation in from 10 to 14 days.



Fig. 12.—Lesions of Common Scab.

COMMON POTATO SCAB.

Common potato scab, one of the most widespread diseases affecting the potato, has been known to occur in Victoria for a great many years. It is present in all Victorian potato-growing districts and causes losses amounting to as much as eight per cent. of the crop. The actual loss in

yield is not great, but the diseased tubers are unsightly and are rendered unfit for market. Although the disease does not cause the tubers to rot, such tubers are more readily attacked by decay organisms during storage, than are those with sound skins. Several species of the soil-inhabiting fungus *Actinomyces* are responsible for this scab, each species producing its own type of the disease. The fungus will attack growing tubers only, and when the tuber has completed its growth the production of scabs ceases.

The scabs on the tubers, produced by the fungus, vary considerably in size and general appearance. Individual scabs are usually circular and of a corky nature (Fig. 12). They may occur singly, or more frequently in patches, and may be either raised or sunken.

Control Measures.

As this disease is more prevalent in soils with an alkaline reaction and light soils which are poor in organic matter, remedial measures should aim at changing those conditions. Liming and the application of alkaline manures should be avoided. Sulphate of ammonia and other acid-producing manures are recommended, as they tend to counteract soil alkalinity. Where the soil is poor in organic matter, the ploughing-in of green manurial crops should be practised. The most important method for the control of this disease is by means of seed disinfection. Infected seed should be disinfected by one of the methods described for dipping *Rhizoctonia* infected seed. (See page 468.)

LATE BLIGHT OR IRISH BLIGHT.

Late Blight or Irish Blight of potatoes is caused by the fungus *Phytophthora infestans* and under conditions favorable for its development, is capable of causing serious damage to potato crops. In 1845-46, it caused a complete failure of the potato crops in Europe, and left famine in its wake. The disease was recorded for this State in 1909, and in the 1910-11 season caused an epidemic here, 75 per cent. of the crop being destroyed. Since then only minor outbreaks have occurred infrequently because the weather conditions during the susceptible period of the growing crop, i.e., at the flowering stage, are normally not conducive to its development. Our experience of this disease over the past 25 years has shown that, except in isolated areas where crops may be affected with this disease more frequently, yearly spraying as a protection against Irish Blight is not an economic practice.

SYMPTOMS AND LIFE HISTORY.

The disease may attack either the above-ground portions of the potato plant, or the tubers underground.

The first symptoms are seen on the leaves of the plant, in the form of irregular brown to black patches, varying in size, but generally located towards the edges and tips of the lower leaves (Fig. 13). Under favorable weather conditions



Fig. 13.—Potato Leaf affected with Irish Blight.
[Qld. Jnl. of Agric.]

these dead areas spread very rapidly until the entire foliage is killed. This occurs in moist, muggy weather, and it is for this reason that the disease is called "Late" blight, since such conditions generally do not prevail until after blossoming time.

Affected plants, as they decay, often emit an offensive odour. A sure sign of blight is the characteristic whitish mould which develops on both sides of moist, blighted leaves, especially if damp, muggy conditions have prevailed for a few days.

The fungus itself is internal in the leaf, and only grows out through the surface of the leaf into the air to form spores. The spores, or seeds of the fungus, are produced at the ends of the whitish mould. When ripe they become detached and are spread by wind or other means. These spores are capable of infecting any healthy potato plant on which they happen to alight. Spores may be produced in a few hours under favorable conditions, so that the spread of the disease may

be very rapid. It is possible for an entire crop to be destroyed in a few days.

Under dry weather conditions the spread of infection is checked. Infected leaves may drop off leaving the plant rather bare, but the whitish mould or spore-bearing structures are not produced on the infected leaves, and consequently the fungus is unable to spread rapidly.

The disease has two effects upon the crop. The death of portions of the leaves of the plant will reduce the number and size of the tubers as the plant is unable to elaborate sufficient food material in the remaining leaves. This reduction in yield may be the only effect noticeable in lightly affected crops, particularly under dry conditions, but is nevertheless important. Usually,

sustained, due to the development of the rot under poor storage conditions.

Although it has been shown that the fungus-causing blight can live on decaying matter in the soil, there is no satisfactory evidence at present available to show that this is an important means by which the disease carries over from season to season. The main source of infection is the planting of infected tubers.

The most favorable temperature for the development of the disease is from 63° to 65° F. Where the mean temperature exceeds 77° F. the disease does not occur. Moisture is also very essential to the development of serious outbreaks of late blight. A warm period of heavy rain, followed by a drop in temperature to about 63° F. represents ideal conditions.

Control Measures.

Usually, under Victorian conditions, late blight does not cause any appreciable damage, so that growers are often reluctant to take any steps to control the disease. It should be remembered, however, that in certain seasons, when conditions have been favorable, this disease has caused losses ranging up to 75 per cent. or more of the



Fig. 14.—Section of tuber affected with Late Blight.

however, the tubers are infected directly by the fungus, to produce a dry or wet rot according to prevailing conditions. Moisture is essential as this infection takes place by spores of the fungus produced on leaves, as described above, being washed down into the soil. At first, rusty, discolored patches are noticeable just under the surface of the tuber, and are generally not very extensive (Fig. 14). The disease, however, may spread rapidly, and the tuber may be a completely decayed evil-smelling mass before harvest, due to the activities of the blight fungus, and other secondary soil organisms.

Where conditions are less favorable, the infected areas do not penetrate very deeply into the tuber, and remain relatively dry and firm. The surface of the tuber above infected areas becomes slightly sunken and darker in colour than normal. Blighted tubers may be distinguished from those with the condition known as "fleck" by the fact that in the latter case the browning of the tissue does not reach the surface of the tuber.

Relatively little rotting of the tubers may occur in the field and yet severe losses may be

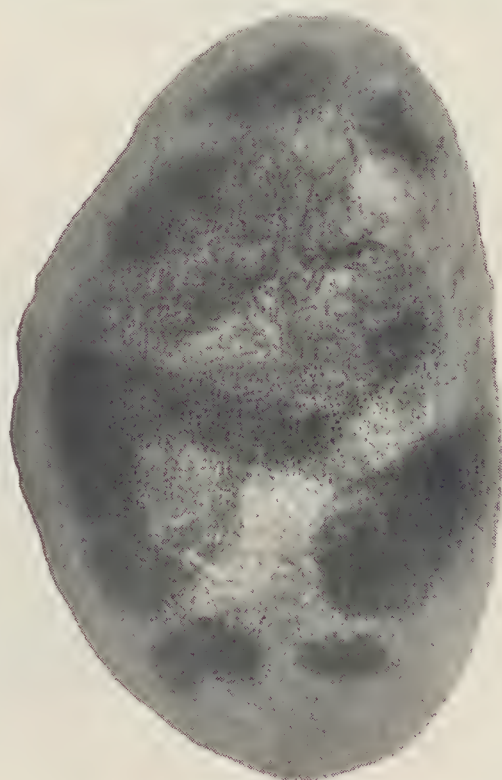


Fig. 15.—Late Blight lesions on the tuber.

crop, so that some precautions, particularly in regard to seed selection, should be practised.

The following methods have given satisfactory control of this disease under conditions where the disease is prevalent.

(a) *Selection of Seed.*—If possible, infected tubers should not be planted, as these are the main source of infection from year to year. Tubers designed for seed should be picked over after digging and any showing signs of disease removed before storage, as the presence of such tubers may lead to contamination of the remainder. Store in a cool dry place to prevent the development of tuber rot in any diseased tubers which may have been overlooked. Many growers claim to have produced satisfactory crops by the use of infected seed, but it must be pointed out that the conditions under which those crops were grown were not favorable to the development of the disease.

(b) *Spraying.*—In countries where this disease frequently develops, spraying has been found to be satisfactory in protecting plants from infection and reducing the spread of the disease. The resultant increase in yields obtained has more than offset the cost of the treatment. Because of the infrequent occurrence of the disease here, spraying is not recommended, except in occasional areas particularly subject to the disease. Growers who wish to spray, may use copper soda, made up as follows:—

Eight pounds of bluestone (snow crystals) is dissolved in 20 gallons of water. Ten pounds of washing soda should be dissolved in a further 20 gallons of water. The two solutions are then poured together, and are ready for use. This spray should be applied when the potato tops are about six inches high and again at flowering time.

Where blight is present in a crop, digging should be delayed in order to permit the rot to be sufficiently far advanced in any of the infected tubers so that they can be readily distinguished at bagging time. In this way, subsequent trouble in storage from blight is greatly reduced.

EARLY BLIGHT OR TARGET SPOT.

This disease which is caused by the fungus *Alternaria solani* has been called early blight to distinguish it from late blight. Under Victorian conditions, it is generally a minor trouble, although, at times it may reduce yield considerably owing to the leaf damage. It more commonly occurs in the early crops of the Western, Central and Gippsland districts. In some cases, where infected crops are dug immature a storage rot may be produced by this organism.

SYMPTOMS AND LIFE HISTORY.

Symptoms of "early" blight may not become prevalent until after the potato plant has passed its period of vigorous growth. The disease is characterized by the development on the leaves, of dark, more or less circular spots of dead tissue, on which close examination often reveals the presence of a number of concentric rings, giving the spot somewhat the appearance of a target



Fig. 16.—Early Blight spots on Potato Leaf.

(Fig. 16). Because of this characteristic marking, the disease is sometimes referred to as "Target" Spot. These rings really represent the "lines of growth" of the fungus, more or less in the same way as the annual rings of a tree are produced by seasonal growth. They occur only when the growth rate of the fungus fluctuates.

Where conditions are not very favorable to development, the spots remain small, and may not be very numerous. If conditions are very favorable to development, the whole leaf may rapidly become affected. Individual spots may run together, producing large brown areas which become darker and more irregular in outline as they grow. The disease is distinguished from late blight by the fact that no white mould appears around the spots.

This disease does not cause the tubers to rot in the ground, but has been found to be the cause of a tuber rot under storage conditions. The freshly dug tubers become contaminated with spores of the fungus produced on the diseased

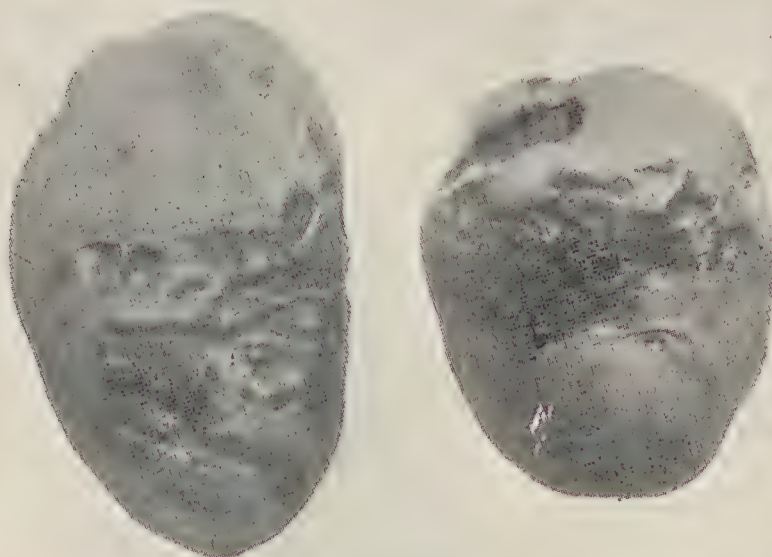


Fig. 17.—Tuber lesions of Early Blight.

[After Pittman.]

foliage, particularly if the potatoes are dug while the tops are still somewhat green. The fungus gains entrance into the tuber through the lenticels eyes or wounds. The affected areas are generally dark brown or black in color, irregular in outline and variable in size. In addition they are sunken into the tissue of the tuber and may be surrounded by a slightly raised border (Fig. 17). The rot produced is typically very dry and slow in development.

Control Measures.

(1) *Spraying.*—Spraying with Copper Soda as outlined for the control of late blight is effective in the control of the leaf spotting caused by this disease and in areas where the disease is likely to cause serious damage, this practice might profitably be adopted.

(2) *Care at Digging Time.*—Tubers should be as mature as possible when dug, and care should be exercised in handling them to ensure that the skin is injured as little as possible. Tubers should not be bagged while wet, nor should leaves or tops of plants be placed on the bags.

(3) *Selection of Seed.*—Tubers showing symptoms of “storage

disease” should be discarded for seed purposes, if others are available.

(4) *Rotation.*—Potatoes should not be grown continuously on the same piece of ground, as the practice increases the risk of disease in the crop.

POWDERY SCAB.

Powdery or Corky Scab, which has made its appearance in Victoria, first appears on the young tubers as small pimples or pustules, which may occur as patches or scattered over the surface. As the disease progresses these pustules break through the surface which splits and forms the

typical circular cavity with frayed edges (Fig. 18), exposing a brown powdery mass of spore balls. Thus the typical powdery scab lesion may be differentiated from that of common scab by the more regular contour of the scabs, the ragged margin of broken skin around the scab and by the presence of the brown powdery mass. On less typical specimens the symptoms are frequently partly suggestive of common scab, and in such

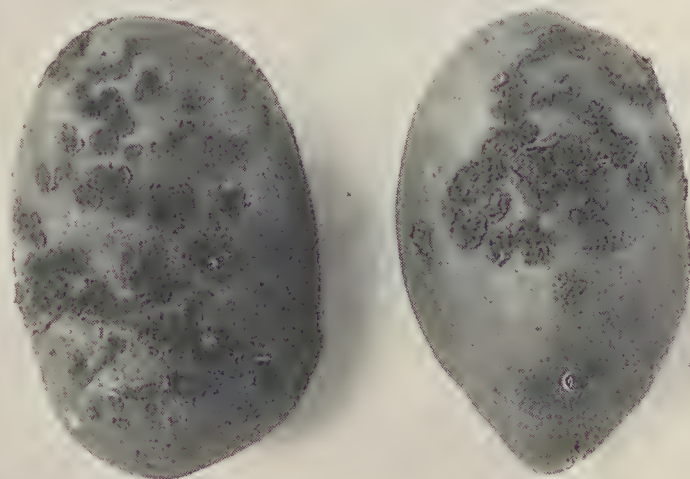


Fig. 18.—Typical lesions of Powdery Scab.

cases a microscopic examination of the specimen is necessary to distinguish the two diseases.

A cankerous stage of powdery scab disease has been described as occurring in limited areas overseas, in which case the deeper tissue of the tuber becomes infected, and is often invaded by rot-producing organisms, which complete its destruction. This cankerous condition has not been observed in this State.

Powdery Scab is caused by a slime-mould parasite *Spongospora subterranea*. The brown powdery mass consists of many spore balls, each of which contains several spores. When these spores germinate, they release tiny naked jelly-like bodies, several of which unite to form what is known as a plasmodium. This plasmodium enters the cuticle of the young tuber and feeds on the cell contents. The organism does not proceed to a depth of more than a few cells. Ultimately, by a division of the organism, a new spore mass is produced under the cuticle, and the typical scab formed. Some of the spore balls are detached from the tubers, and may be left in the soil when the crop is lifted, while others are distributed with the tubers. Thus the disease is both seed and soil borne. It is uncertain how long the powdery scab organism is able to live in the soil, but English authorities believe that they have evidence that a new crop may be infected even after a lapse of three to five years.

Cool weather conditions and low, wet soil, are most favorable for the development of the disease.

Control Measures.

1. Only healthy seed should be planted.
2. Avoid contaminated land. In fields known to be infested a long rotation of at least five years should be followed as a means of starving out the disease organism.
3. Attention to the drainage of land may also prove beneficial.

BLACK LEG.

Black Leg, although widely distributed, does not do extensive damage. It may be classed as a disease of a sporadic nature. The disease is the result of an attack by pathogenic bacteria, and, although the identity of the organism causing the disease in Victoria has not been fully investigated, it may be regarded as belonging to the *Bacillus phytophthorus* group.

In a crop, the diseased plants are rather conspicuous, and can be recognized by the stiff erect appearance of the stunted plants, the leaves of which are pale green with a tendency to roll

inwards. The most characteristic feature is noted when affected plants are pulled up. The stalks come away easily, and are found to be rotten and black at their bases. (Fig. 19). The tap root is usually covered with a dark bacterial slime.

If the disease develops early in the season, the leaves of affected plants turn brown and the plant dies before producing tubers. Diseased tubers are generally soft and discolored, especially at the heel end, and the flesh is brown, ultimately becoming wet and rotten.



Fig. 19.—Typical symptoms of Black Leg on a potato plant.

As the principal means of spread of this disease is the planting of infected "seed," care should be taken to destroy diseased plants as they appear in the field, and to see that the tubers from such plants are not saved for seed.

BACTERIAL WILT.

The organism (*Bacterium solanacearum*) responsible for the disease known as Bacterial Wilt, Bacteriosis, Wet Rot or Sore Eye, attacks a number of plants belonging to the potato family, such as tobacco and tomato. The disease is confined mainly to parts of Gippsland, where it has been responsible for serious damage.

The incidence of the disease in the field is similar to that of Black Leg, i.e., sound plants

can always be found alongside those diseased. The first symptoms appear as a slight wilting of the plant, which progresses until the plant finally dies. A cross section of the stem of a

Where it is necessary to adopt preventive measures, the planting of clean seed and the practice of crop rotation are recommended.

STRINGY ROT.

Armillaria mellea Vahl, which is a common parasite of orchard trees, occasionally attacks potatoes when they are planted in newly-cleared land. The cordlike strands of the fungus, growing on the roots and tubers of the plant are very characteristic. These fungal strands penetrate the skin, and under some conditions may completely destroy the tubers, which shrivel up into a dry decayed mass. The disease is never very serious on potatoes, so that no special control measures are necessary.

BROWN FLECK OR SPRAIN.

The terms Brown Fleck and Sprain have been used for a long time to include a group of potato-tuber diseases characterized by symptoms of brown blotches or streaks in the flesh of the tuber (Fig. 21). Affected tubers usually do not show any external signs of the disease and the trouble, in many cases, can be detected only after cutting the tubers. Overseas workers have investigated the problem of the identity of the causal agents from various aspects, but, as yet, no satisfactory conclusions have been reached.

Although the condition is undesirable in table potatoes, "seed" is not much affected by it, as crops grown from such seed on good land may be quite free from the trouble. Experience has



Fig. 20.—Bacterial Wilt—showing infection of eyes.

diseased plant shows the water-conducting vessels to be filled with a bacterial slime, which may ooze out upon cutting. Infected tubers may show a brown discoloration of the vascular ring, but a more frequent symptom is a soft rot which commences at the eyes, finally reducing the tuber to a dirty slimy mass. (Fig. 20).

The control measure recommended for this disease is the use of "seed" from crops which are free from the disease.

SILVER SCURF.

Silver scurf is of common occurrence in many districts of Victoria, but the damage done to the tubers by this disease is so slight that it is not regarded with any concern, and, in fact, often passes unnoticed. The parasitic fungus *Spondyliocladium atrovirens* attacks the superficial cells of the tuber and produces a silvery-white blemish, more readily seen when the tubers are wet. Badly affected tubers have a tendency to dry out during storage.

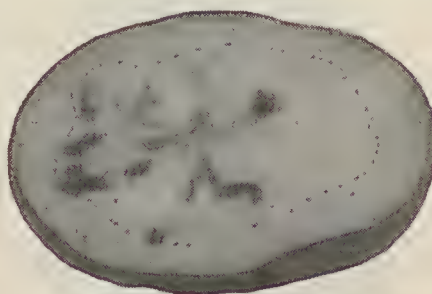


Fig. 21.—Brown Fleck or Sprain.

shown that Sprain is more common in dry years and on light soil. Some varieties, such as Up-to-Date, Scottish Triumph, and Carmans, are more liable to be affected than others. Perhaps the best way of avoiding the disease is to refrain from growing potatoes in these types of soil, in which experience has shown that Sprain regularly occurs.

GLASSY END.

The "glassy end" disease of potatoes is of non-parasitic origin. It is a condition associated with and due solely to faulty environmental conditions. It occurs mainly in the late crops of the Western, Ballarat, and Gippsland districts, particularly in the Snowflake variety.

In some years damage up to 20 per cent. of individual crops may occur.

The symptoms of this trouble may not be evident until the affected potato is cut through at the stem end. The flesh of such a specimen has a translucent or "glassy" appearance in contrast with the normal opaque flesh of a healthy tuber. Although the condition does not develop further in storage, affected tubers are more susceptible to decay organisms and frequently develop a wet rot.

"Glassy end" has been shown to be associated with the occurrence of a high proportion of "second growth" tubers. It is, therefore, probably due to erratic conditions in the growing season, since second growth is known to be favoured by fluctuating weather conditions.

As "glassy end" is likely to recur whenever seasonal conditions are favorable for second growth, no control can be suggested. The only avenue of approach to the problem of prevention appears to lie in the selection and breeding of potato varieties which show minimum proportions of second-growth tubers.



Fig. 22.—Dry-rot lesions showing infection at a fork mark.

SUN SCALD.

Tubers which are exposed to the intense sunlight of a hot day immediately after digging often develop a condition known as scald. Three or

four days may elapse after injury takes place before the first symptoms occur. The injured tubers rapidly break down to a mushy condition. Scalding may also occur in hot, iron trucks,

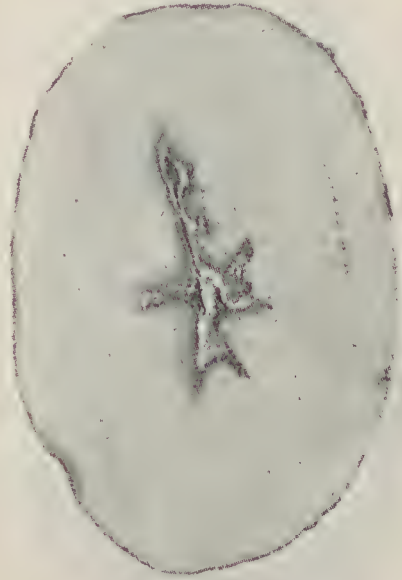


Fig. 23.—Typical Black Heart lesion.

mainly in the outside bags, which come in contact with the hot iron. Growers are advised to pick the potatoes up as soon as possible when digging during hot weather.

STORAGE TROUBLES.

Black Heart is a condition which may appear under conditions where the ventilation is inadequate. The condition, which is attributed to a deficiency in the oxygen supply, shows itself as a typical blackening of the interior of the tuber, particularly the pith (Fig. 23).

If stored in closed sheds, the potatoes should receive sufficient ventilation, and if stored in pits they should be located in well-drained positions and thatched. Thatching should be carried out so that the potatoes will be kept dry. Seed should be stored in crates and kept in open sheds.

A common dry rot of potato tubers (Fig. 22), due to *Fusarium* sp., is frequently responsible for loss in storage. As the trouble is usually confined to damaged tubers (such as forked tubers), only sound healthy tubers should be bagged. Care should be exercised in the digging and

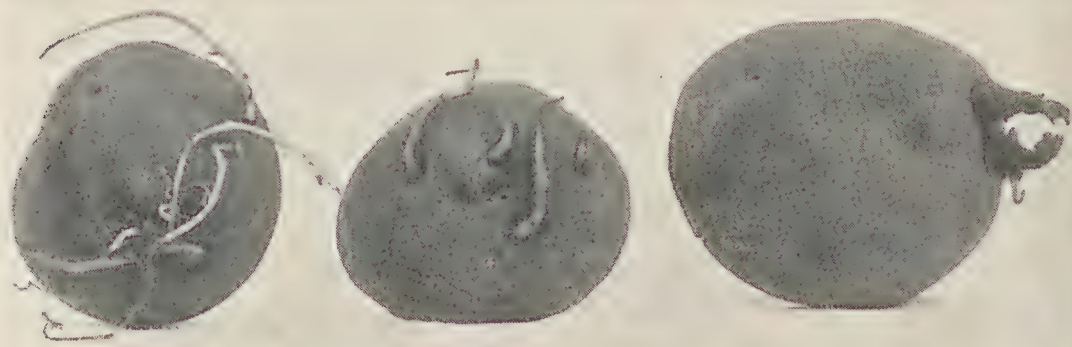


Fig. 24.—Two “ spindle sprout ” tubers compared with a normal tuber on right.

handling of the crop so as to avoid injury to the skin of the potato.

Great care should be taken to store only sound tubers, as the presence of tubers affected with late or early blight, glassy end, sore eye, or potato moth will bring about a considerable wastage in the sound tubers stored.

SPINDLE SPROUT.

The condition known as Spindle Sprout, characterized by the presence of slender weak

sprouts instead of the normal short, strong ones (Fig. 24), is often met with at planting time, when the sprouted tubers are examined. Such tubers always produce weak, unhealthy plants, and should be discarded. The symptom may be indicative of one of many diseases, such as leaf roll, witches' broom, &c.

Growers requiring advice in connexion with potato diseases and pests may submit specimens and send inquiries to the Plant Research Laboratory, Department of Agriculture, Burnley, E. 1.

State Research Farm, Werribee

The Minister of Agriculture, the Honorable E. J. Hogan, M.L.A., extends to all interested in primary production an invitation to attend the Annual Farmers' Field Day at the State Research Farm, Werribee, on Friday afternoon, 25th September.

This farm is the main experiment station in Victoria for wheat breeding and general cereal culture, pasture management, irrigation practice, and stock improvement. Special facilities are provided at Field Day for visitors to view the experimental fields and inspect the farm live stock, including horses, dairy cattle, sheep, and poultry.

Many interesting experiments are in progress in wheat development, pasture management, poultry problems, &c. A card of entry to the Field Day is not required. For the convenience of visitors a special train for Werribee will leave Spencer-street Station at 12.40 p.m.

Tubercle Free Herds

The following herds have been declared free of tuberculosis under the scheme conducted by the Department of Agriculture. Under this scheme a tuberculosis-free accredited herd of cattle is one in which the entire herd has passed two negative, successive, annual physical examinations and tuberculin tests, or, upon disclosure of infection, three semi-annual, successive physical examinations and tuberculin tests applied by a State Veterinarian or by a qualified and registered veterinarian who is approved by the Chief Veterinary Inspector for that purpose.

ACCREDITED TUBERCLE FREE HERDS.

Herd Number.	Name.	Address.	No. in Herd.	Herd Number.	Name.	Address.	No. in Herd.
1	State Research Farm	Werribee ..	259	6	Lady Talbot Milk Supply Company	Cranbourne ..	418
2	Warragul High School	Warragul ..	35	7	Mailer, Dr. Ramsay ..	"Maneroo,"	92
3	Payne, A. E. T. ..	"Yarra View," Lilydale	80	8	Reid, Ralph G. ..	Shepparton "Holmwood,"	99
4	Dennis, Mrs. A. A. ..	Frankston ..	14			Koo-wee-rup	
5	Slaney, H. B. . . .	Mornington ..	85				

The Pastures of Australia

BULLETIN No. 99 of the Council for Scientific and Industrial Research which has just been issued, contains a survey of the Pastures of Australia. For the purpose of the survey the Commonwealth has been divided into fourteen major zones and details are given of the fodder plants in these widely-varying divisions. Our native grasses, salthushes, &c., are renowned for their fattening and wool-producing qualities, and for their resistance to droughts, but the area given up to introduced grasses which provide a heavier and more succulent growth is increasing annually.

The bulletin should help towards the improvement of pastures by facilitating the introduction of suitable herbage plants into the several zones, and in providing a foundation for a study of fodder plants in districts where no work of the kind has been undertaken.

Accompanying the bulletin is a map in colour, which shows in broad outline a classification of the pasture areas of Australia.

Copies of the bulletin are obtainable free from the Council for Scientific and Industrial Research, 314 Albert-street, East Melbourne, C.2.

Importation of Poultry and Stock into Tasmania by Aeroplane

A recent Proclamation under the Stock Act of Tasmania prohibits the importation into that State from any State in the Commonwealth of Australia by aeroplane or seaplane of any dog, cat, poultry, or pigeon. This prohibition, however, does not apply in respect of any chicken of not more than one day old.

Dairy Produce Supplies

1935 Imports into the United Kingdom

RECORD quantities of Australian butter and cheese were imported into the United Kingdom in 1935, according to "Dairy Produce Supplies in 1935," a survey published by the Imperial Economic Committee. There was a check to the expanding trade in eggs, however, and the Commonwealth dropped from third to fifth place among the list of supplying countries. Australia sent heavier quantities of turkeys and lard than in 1934, and shipments of frozen pork established a record.

Although imports of dairy produce, poultry, and pig products into the United Kingdom in 1935 represented 28 per cent., by value, of the total imports of food, drink, and tobacco, the aggregate quantity of those imports was appreciably less than in 1934, states the report. Dairy products resisted the depression rather longer than most agricultural commodities, but prices continued to decline in 1934, when many farm commodities were showing a reversal of the downward trend. In 1935, however, the prices of dairy produce rose more than those of agricultural products in general. Total imports of dairy, pig, and poultry products in 1935 cost £3 millions more than in the previous year, following a decline of £2 millions between 1933 and 1934. Butter imports by value were greater than those of any other single article of food, although bacon was displaced by wheat for second place.

The share of Empire countries in the imports of dairy produce and allied products has increased in recent years, and record proportions of butter, hams, pork, and lard were entered last year. Coincident with this development, production in the United Kingdom itself has tended to represent a growing proportion of the total supplies available for consumption.

The quantity of butter entering world trade increased by 2 per cent. to a record figure in 1935. Imports into the United Kingdom amounting to 9,600,000 cwt., valued at £39,300,000, were 1 per cent. less in quantity, but 18 per cent. greater in value than in 1934, and accounted for more than four-fifths of world

imports of butter. Supplies from Empire sources comprised 57 per cent. of total imports and were greater, both proportionately and in actual volume, than ever before. New Zealand, supplying 28 per cent. of the total, was the principal source, and Australia, with 22 per cent., followed Denmark in third place. In spite of increased prices, the consumption of butter in 1935 was maintained at the previous year's record level of 25.2 lb. per head, a figure 6.5 lb. greater than in 1930. It is of interest to note that the per caput consumption of margarine, estimated at 8.4 lb. in 1935, was $\frac{1}{2}$ lb. heavier than in 1934, though nearly $3\frac{1}{2}$ lb. below the 1930 figure.

World trade in cheese has declined in recent years. Imports into the United Kingdom in 1935, amounting to 2,700,000 cwt., were 9 per cent. less than in 1934 and the smallest since 1922. Empire supplies declined, but accounted for 88 per cent. of total imports. Imports of condensed milk were reduced by a further 15 per cent. in 1935. The remarkable growth in recent years of an export trade in condensed milk of United Kingdom manufacture, mainly to the tropical Empire, is a feature of some interest.

The quantity of eggs entering international trade has decreased by one-third in the past five years. But imports into the United Kingdom in 1935 were 6 per cent. greater than in 1934, and totalled 198 million dozens. Denmark accounted for one-third of the total and all Empire supplies for only 24 per cent., compared with 31 per cent. in the previous year. Production in the United Kingdom itself also declined, although accounting for two-thirds of total supplies, and consumption is estimated to have decreased from 150 eggs per head in 1934 to 147 in 1935.

Copies of the report can be had from the Imperial Economic Committee, 2 Queen Anne's Gate Buildings, London, S.W.1. Its price (including postage) is 2s. 9d.; to this sum exchange would have to be added. Perhaps the most convenient way to obtain copies would be through a bookseller.

Orchard and Garden Notes

By Edward E. Pescott, F.L.S., Senior
Horticultural Instructor.

The Flower Garden.

ONE of the most popular flowers at the present time is the Helleborus or Hellebore. Apart from its beauty and daintiness, it is of great value for winter blooms. The single flowers of unusual purplish and greenish shades are produced abundantly in July and August.

The plant is a herbaceous perennial, and as such requires abundant food supplies. As a matter of fact it is hardly possible to overfeed the Hellebore; it revels in a richness of soil; and if it be given water at all times of the year, it will produce ample flowers. It is strange that it loves plenty of water even in winter. This peculiarity is to be accounted for by the fact that in Europe, whence it comes, it is frequently under the snow.

All other herbaceous perennials, such as Delphinium, Phlox and Rudbeckia, should now be planted. The soil should be well supplied with fertilizer, which must be placed underneath the plants; then the crowns may be well pressed in and watered to settle the soil around the roots.

Seed-beds should now be prepared for the sowing of all summer-flowering annuals. A sunny and well-drained spot should be selected and dressed with old manure and then deeply dug over.

The Vegetable Garden.

The advice given last month for the preparation of seed-beds for summer vegetables should be followed now, if the work be not already done. It is important that a good fresh seed-bed be made, and that the seedlings or young plants be placed in a well prepared home of sweet soil. Thus lime, or a lime dressing, is an important factor in the new season's beds. Lime also is an excellent deterrent for many soil pests, such as mealy bug, aphids, and psocids, which are very abundant in spring. These pests feed on the germinating seeds, and so cause very considerable loss.



Delphinium.

In sowing pea seeds, it is a common practice to sprinkle a small supply of superphosphate and/or bonedust among the seeds before covering them with soil. This should not be done, as the fertilizer is injurious to the young plant. Such fertilizer should be placed an inch or two below the seeds, so that it will be available when the roots are able to take it in. Green peas and broad beans may still be sown; French beans and Soya beans may be sown in early and warm districts.

The Orchard.

Spraying for black spot and codling moth will soon be in full swing. The usual black spot programme for pears will be a 6.4.40 Bordeaux at the green tip and again at the early pink stages, with three sprays 3.3.50 Bordeaux commencing three weeks after fruit has formed. This applies to all varieties except Josephine. This pear should receive one pre-blossom spray of 6.4.40 Bordeaux in the early green tip stage. No more Bordeaux should be given, but a few ounces of bluestone should be put into the second arsenate of lead spray. Where limil is used, the strength should be 6.6.40.

Apples which russet easily, such as Jonathans, should receive a Bordeaux 6.4.40 at the green tip stage, lime sulphur 3 in 80 at the early pink stage, lime sulphur 2 in 80 at petal fall, and fourteen days later a lime sulphur spray, 1½ in 80.

All other apples may be given Bordeaux 6.4.40 (if desired, 6-lb. limil may be substituted for rock lime) at the green tip stage; and Bordeaux 3.3.50

in the very early pink stage. Then, 6 ounces of bluestone and 6 ounces of limil as a base spreader should be added to every arsenate of lead spray.

The codling moth programme will be discussed in our next issue. In the meantime this should be noted: lime sulphur must not be used in any oil programme for codling moth and growers must rely on a few ounces of bluestone in the lead spray.

Cronin Memorial Horticultural Scholarship

IN accordance with the terms of an agreement entered into by the Committee of the Cronin Memorial Fund and the Equity Trustees, Executors, and Agency Co. Ltd., a scholarship, known as the Cronin Memorial Horticultural Scholarship, will be awarded as from the beginning of 1937 under the following conditions:—

1. Candidates must not be under thirteen and a half or over sixteen and a half years of age on the 1st of January, 1937.

2. Competition will be limited to boys who, during the preceding two years, have been in continuous and regular attendance at State or registered schools in Victoria, or the Victorian Government's School of Horticulture, Burnley.

3. The scholarship will be awarded by the Trustee on the recommendation of the Director of Education, such recommendation being based on:—

- (a) The school records (including attendance, progress, physique, conduct, personality, and general intelligence) of the candidates;
- (b) The evidence of interest in horticulture shown by the candidates; and
- (c) The marks obtained by the candidates at an examination conducted, as mentioned in clause 4 below, in English, elementary mathematics, drawing, and general knowledge (including geography and history) as prescribed for Grade VIII. in State elementary schools, or its equivalent.

4. The examination mentioned in clause 3 above will be conducted by the Education Department of Victoria with the co-operation of the Committee.

5. The scholarship will be tenable for four years under the following conditions:—

- (a) That the holder will at once enter and, during the next three years, will

remain as a student at the School of Horticulture; Burnley;

- (b) That, during the first, second, and third years of the tenure of the scholarship, he will, on the report of the Principal, be satisfactory in regard to his attendance, conduct, and progress at school; and

- (c) That, during the fourth year of the tenure of his scholarship, he will serve a term in any branch of general or commercial horticulture approved by the Committee.

6. Each holder of the scholarship will be entitled to an allowance of £60 per annum, less 22½ per cent., during the first, second, and third years of the tenure of his scholarship, and will be granted free tuition by the Minister of Agriculture at the School of Horticulture, Burnley. The allowance will be payable quarterly, and may, at the discretion of the Trustee, be paid to the scholar or to his parent or guardian, or may otherwise be applied towards the expenses of his education in horticulture.

7. Each candidate awarded a scholarship will be required to enter into an agreement by himself and an approved surety that he will observe the conditions of tenure of his scholarship.

8. Upon satisfactorily completing the conditions of tenure of his scholarship and passing a prescribed examination, each holder of the scholarship will be entitled to receive a special diploma or certificate endorsed by the Committee.

9. The Trustee may, at any time, cancel a scholarship if he is satisfied that the prescribed conditions are not being complied with.

10. Applications must be made on a prescribed form, and must be forwarded through the head teacher to the Secretary, Education Department, Melbourne, C 2, not later than the 7th of October, 1936.

Standard Herd Records

Complete Return of the Cows which completed the Tests during the Quarter ended 30th June, 1936.

In the following is set out the records of all cows which completed a lactation during the quarter. The number is 771, of which 591 qualified for the certificate. The figure in brackets after the owner's name shows the number of entries.

The amount of butter-fat required for qualification varies according to the age of the animal (up to five years at time of calving), the standard being as follow:—

Junior 2 year old (under 2½ years at time of calving)	..	..	230 lb. butter fat.
Senior 2 year old (between 2½ and 3 years at time of calving)	..	..	250 lb. butter fat.
Junior 3 year old (between 3 and 3½ years at time of calving)	..	..	270 lb. butter fat.
Senior 3 year old (between 3½ and 4 years at time of calving)	..	..	290 lb. butter fat.
Junior 4 year old (between 4 and 4½ years at time of calving)	..	..	310 lb. butter fat.
Senior 4 year old (between 4½ and 5 years at time of calving)	..	..	330 lb. butter fat.
Mature cow 5 years and over	..	..	350 lb. butter fat.

(Except where otherwise stated, the period of Test was 273 days.)

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Allen, F. de V., Toora, Jersey (6).										
Charm of Blackwood Valley	17420	9.7.35	16	8,042	4.91	394.89	350	Mature	250, 341, 378, 362, 430, 452, 449, 489, 395	Woodruff Admiral
Glen Alice Buttercup	48220	24.7.35	12	4,934	4.74	233.72	230	Jr. 2	..	Glen Alice Madeira's King
*Glen Alice Miss Starleigh	43945	28.7.35	4	4,770	5.02	268.19	270	Jr. 3	274	Monica 14th's Son of King's Vale
Glen Alice Queen	48221	25.7.35	13½	6,012	5.56	334.17	250	Sr. 2	331	Tooravale Starbright 2nd
Glen Alice Sybil	43946	15.8.35	16	5,471	5.81	317.69	270	Jr. 3	268	Tooravale Starbright 2nd
Wompini Happy Bell	36777	13.7.35	15	7,752	4.75	368.42	330	Sr. 4	272, 348	Wompini Metal Master
Atkinson, W. K., Swan Hill, Dairy Shorthorn (13).										
Willow Park Camelia	D.S.H. B.	2.9.35	21	11,193	3.60	403.49	350	Mature	384, 441, 515, 539, 615, 574, 553, 525	Willow Park Count
Willow Park Camelia 2nd	D.S.H. B.	22.9.35	30	11,661	3.58	417.02	350	Mature	288, 376, 427, 415, 439, 446, 491	Willow Park Diamond
Willow Park Camelia 6th	D.S.H. B.	30.8.35	17½	9,083	3.78	343.60	350	Mature	358, 314, 371	Willow Park Design
Willow Park Camelia 8th	D.S.H. B.	28.8.35	27½	11,784	3.92	462.41	290	Sr. 3	289	Willow Park Gay Boy 4th
Willow Park Comet 4th	D.S.H. B.	28.8.35	19½	10,878	4.13	449.28	350	Mature	305, 409, 456	Willow Park Count
Willow Park Comet 9th	D.S.H. B.	10.9.35	23	9,200	3.91	359.97	270	Jr. 3	343	Willow Park Imperial 3rd
Willow Park Dainty 5th	D.S.H. B.	24.9.35	31	12,830	4.26	546.05	350	Mature	374, 473, 510	Willow Park Banker 2nd
Willow Park Duchess 24th	D.S.H. B.	24.9.35	16	8,222	3.69	303.23	250	Sr. 2	..	Willow Park Silvermine 4th
Willow Park Melba 11th	D.S.H. B.	1.9.35	15½	9,345	4.01	374.60	270	Jr. 3	342	Willow Park Imperial 3rd
Willow Park Melba 15th	D.S.H. B.	10.9.35	23½	8,766	4.72	413.67	230	Jr. 2	..	Willow Park Lustre 3rd
Willow Park Queenie 33rd	D.S.H. B.	20.9.35	19	7,362	3.92	288.58	230	Jr. 2	..	Willow Park Imperial 3rd
Willow Park Ruby 6th	D.S.H. B.	3.8.35	21½	7,923	4.39	347.50	230	Jr. 2	..	Willow Park Banker 5th
Steventon Dog Rose (Imp.)	D.S.H. B.	25.8.35	17½	11,187	3.42	382.22	290	Sr. 3	..	Stokelycross Admiral
Austin, F., Lara, Jersey (3).										
Avalon Mercedes Pansy	28405	3.8.35	21½	9,635	4.56	439.61	350	Mature	397, 413, 484, 417	Mercedes Chief of Glen Iris
Avalon Noble's Daisy 2nd	32907	9.7.35	17½	9,275	5.80	537.86	350	Mature	450, 542, 520	Noble of Avalon
Avalon Noble's Pansy 5th	36835	2.8.35	4	4,650	5.16	239.77	350	Mature	237, 311, 384	Noble of Avalon

* 240 days in test.

STANDARD HERD RECORDS—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Axford, W., Camperdown, Jersey (12).										
Leura Beauty 4th ..	25235	9.7.35	14	7,992	5.09	406.47	350	Mature	355, 420	Admiral of Leura
*Leura Beauty 12th ..	Vol. 23	15.9.35	..	4,485	5.59	250.50	230	Jr. 2	..	Leura Manfred
Leura Countess 6th ..	Vol. 23	16.7.35	10½	5,280	5.34	281.97	230	Jr. 2	..	Mornmoot Mosstrooper
*Leura Dora 2nd ..	Vol. 23	22.8.35	..	4,245	5.61	237.99	230	Jr. 2	..	Clarendon Eyre Eminent's Sorcerer
Leura Elaine 9th ..	Vol. 23	27.7.35	21	5,315	5.58	296.57	230	Jr. 2	..	Clarendon Eyre Eminent's Sorcerer
*Leura Elaine 11th ..	Vol. 23	25.9.35	..	4,875	5.44	265.05	230	Jr. 2	..	Mornmoot Mosstrooper
Leura May 8th ..	36841	7.8.35	..	8,088	5.03	406.70	350	Mature	445, 392	Curiosity's King of Comely Banks
Leura May 14th ..	Vol. 23	7.8.35	..	5,133	5.50	282.15	230	Jr. 2	..	Clarendon Eyre Eminent's Sorcerer
Leura Montress 5th ..	Vol. 23	18.8.35	..	5,631	5.02	282.46	230	Jr. 2	..	Clarendon Eyre Eminent's Sorcerer
*Leura Patricia 16th ..	Vol. 23	9.9.35	..	4,605	5.10	234.96	230	Jr. 2	..	Mornmoot Mosstrooper
Leura Patricia 18th ..	Vol. 23	25.7.35	12½	7,650	5.80	448.81	230	Jr. 2	..	Clarendon Eyre Eminent's Sorcerer
Leura Piccaninny 8th ..	Vol. 23	13.8.35	..	7,278	5.70	414.77	230	Jr. 2	..	Clarendon Eyre Eminent's Sorcerer
Bassett-Smith, C., Kyabram, Red Poll (3).										
Flowing Vale Astroletta	2382B	8.8.35	12½	9,411	3.84	361.72	350	Mature	271, 316, 361, 318, 315, 280	Dinkum Astrologer
†Temperley Air Plane ..	2988A	21.9.35	4	7,185	4.34	311.97	330	Sr. 4	280, 307, 284	Corriedale Royal Favourite
Temperley Sweet Pear ..	4503AA	28.8.35	20½	7,697	3.56	274.35	290	Sr. 3	191, 260	Earl of Beaconsfield
Bidgood Bros., Staghorn Flats, Jersey (2).										
Staghorn Noble's Clemantine 3rd ..	Vol. 23	31.8.35	20½	6,200	5.32	330.02	230	Jr. 2	..	Nancy's Noble (Imp.)
Staghorn Noble's Lotus 2nd ..	Vol. 23	29.8.35	23	6,780	4.60	316.51	230	Jr. 2	..	Nancy's Noble (Imp.)
Black, Mrs. A. J., Noorat, Jersey (1).										
Noorat Sundew ..	45467	29.7.35	17½	7,209	5.60	403.91	270	Jr. 3	..	Banyule Airo
Black, I. S., Noorat, Ayrshire (2).										
Mount Noorat Boronia ..	20554	5.8.35	19	10,710	3.74	400.09	350	Mature	275, 363, 347, 594	Scottish Fame of Gowrie Park
Mount Noorat Poppy 2nd ..	26591	20.7.35	14½	7,649	4.44	339.53	310	Jr. 4	340, 366	Scottish Hero of Gowrie Park
Box, Late Dr. J., Noolee, Jersey (2).										
Toorongo Laura ..	36941	27.8.35	4	3,690	4.86	179.49	330	Sr. 4	106, 151, 166	Toorongo Mercedes King
Toorongo Muriel ..	28480	16.8.35	6	4,959	4.79	237.53	350	Mature	179, 200, 267, 229, 206	Werribee Fancy Masterpiece
Box, Late Dr. J., Whittlesea, Jersey (4).										
Bellefleur Blonde's Beatrice	47185	25.8.35	11	7,124	4.91	349.68	330	Sr. 4	297, 280	Napoleonette's Golden Oxford
Toorongo Juanita ..	50902	22.7.35	11	5,103	5.63	287.13	270	Jr. 3	267	Kantara Don Juan
Toorongo Pet ..	42268	23.9.35	13	6,645	5.49	364.73	310	Jr. 4	284, 391	Kantara Don Juan
Toorongo Princess Millicent	42270	13.8.35	8	6,131	6.03	369.68	270	Jr. 3	284	Toorongo Maori Chief
Broad, A. A., Sutton Grange, Jersey (8).										
Grangelea Bell ..	40060	21.9.35	15½	7,200	5.71	410.87	290	Sr. 3	302, 328	Grangelea Daffodil's Airo
Gladfield Bonnie ..	48206	12.9.35	14½	5,921	5.14	304.58	280	Jr. 2	..	Grangelea Dandy Mac
Grangelea Damsel ..	36965	20.9.35	18	6,870	6.31	427.09	350	Mature	353, 430, 449	Banyule Macon
Grangelea Pretty Roseleaf 2nd ..	44175	10.9.35	14½	5,969	6.05	361.22	250	Sr. 2	298	Grangelea Prosper 2nd
Grangelea Rose 3rd ..	40066	17.9.35	17	7,328	5.91	432.80	290	Sr. 3	346, 390	Banyule Macon
Grangelea Rose 5th ..	48525	29.8.35	15½	6,138	5.03	308.71	230	Jr. 2	..	Banyule Macon
Grangelea Rosebud 7th ..	48527	28.8.35	12	5,046	5.53	279.16	230	Jr. 2	..	Banyule Macon
Grangelea Roseleaf 2nd ..	26394	25.9.35	11	7,400	5.02	371.31	350	Mature	305, 384, 455, 476, 454	Mistletoe 2nd's V.C. of Tarnplir
Buchanan, J., Flinders, Ayrshire (1).										
*Glencira Chic ..	20124	19.7.35	..	7,470	4.74	353.61	350	Mature	371, 350, 416, 456	Glencira Briton
Call, A. J., Werribee South, Jersey (1).										
Springvale Countess 2nd ..	46162	28.7.35	25	6,570	5.27	346.41	270	Jr. 3	320	St. Alban's Thelma King 2nd
Chadderton, J. E., Hamilton, Jersey (5).										
Clover Flat Glossy 2nd ..	28531	20.7.35	17	8,327	5.27	439.24	350	Mature	385, 396, 407, 452	Beau Brummell of Banyule
Glen Leigh Destiny 2nd ..	43973	1.7.35	14	5,951	5.94	353.79	230	Jr. 2	..	Glen Leigh Bounty
Glen Leigh Dewdrop 3rd ..	43974	20.7.35	12½	5,044	5.41	272.74	230	Jr. 2	..	Glen Leigh Bounty
Glen Leigh Dora 2nd ..	28532	5.8.35	13½	6,886	5.49	378.06	350	Mature	356, 500, 490, 456	Gadabout of Danton
Glen Leigh Duchess 4th ..	25791	28.8.35	14½	7,616	5.61	427.29	350	Mature	266, 455, 477, 503	Gadabout of Danton

* 240 days in test (herd withdrawn).

† 240 days in test.

STANDARD HERD RECORDS—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Chirnside, R. M., Whittlesea, Jersey (8).										
Ballara Starbright 6th ..	38783	2.7.35	30	12,453	4.70	585.31	290	Sr. 3	386, 566 ..	Brucevale Lord Fancy Madeira
Mornmoot Fancy Madeira	45255	15.7.35	13	6,348	6.23	395.18	230	Jr. 2	.. ..	Werribee Prince Madeira
Mornmoot Northwood	33142	9.7.35	10½	10,571	5.57	588.77	330	Sr. 4	381, 471, 605	Werribee Prince Madeira
Mornmoot Madeira	37070	8.7.35	8	8,234	4.91	404.30	290	Sr. 3	421 ..	Werribee Prince Madeira
Mornmoot Northwood	45267	2.7.35	16½	7,382	6.42	473.57	230	Jr. 2	.. ..	Werribee Jupiter
Mornmoot Madeira 4th	45271	29.8.35	23½	8,177	5.22	427.23	230	Jr. 2	.. ..	Mornmoot Mars
Mornmoot Starbright	37072	3.8.35	5	9,950	5.55	551.98	290	Sr. 3	359, 547 ..	Staghorn Northlark's Masterpiece
Staghorn Royal Lotus	28543	12.7.35	24½	12,196	5.84	712.37	350	Mature	595, 587, 680	Werribee Butter King
Werribee Princess Satisfaction										
Chitty, C., Kongwak, Jersey (8).										
Aveley Norma 4th ..	33146	18.8.35	12½	7,089	5.29	374.78	350	Mature	329, 409, 269, 456	Mare Anthony of Aveley
Ewelme Golden Dawn ..	28563	5.8.35	12½	6,353	5.06	321.18	350	Mature	340, 380, 380, 371, 331, 377	Northern Master of Glen Iris
Ewelme Master's Enid ..	48093	29.8.35	9	4,854	6.62	321.42	270	Jr. 3	263 ..	Northern Master of Glen Iris
Ewelme Master's Nautilus	43841	5.8.35	8½	4,539	6.76	306.81	290	Sr. 3	243, 374 ..	Northern Master of Glen Iris
Ewelme Norma ..	39690	29.7.35	11	6,714	5.69	381.92	330	Sr. 4	345, 286, 331	Northern Master of Glen Iris
Ewelme Northern Girl ..	39691	5.9.35	9	6,060	5.67	337.40	350	Mature	244, 254, 343	Northern Master of Glen Iris
Ewelme Northern Holly ..	37079	25.7.35	10	6,596	5.80	382.76	350	Mature	375, 312, 321, 366	Northern Master of Glen Iris
Ewelme Rosy Morn ..	Vol. 23	27.7.35	13	3,990	6.03	240.54	230	Jr. 2	.. ..	Ewelme Brown Prince
Clarke, A. B., Glenormiston South, Jersey (1).										
Denniston Princess 3rd ..	47875	5.8.35	10	5,610	5.68	318.82	230	Jr. 2	.. ..	Banyule Lord Silvair
Clark, F. W., Toora, Jersey (4).										
Banyarra Sunbeam ..	42878	21.9.35	14	6,491	5.43	352.33	290	Sr. 3	244 ..	Banyule Ventilation
Hazelgrange Mistress ..	40188	9.8.35	22	8,544	5.73	489.78	330	Sr. 4	356, 465 ..	Master Clement of Glen Iris
Mer Vue Choice 3rd ..	Vol. 23	1.8.35	15	5,849	5.96	348.43	280	Jr. 2	.. ..	Woorayl Flashlight
Wood Butterball ..	42574	17.8.35	14	5,322	5.69	302.59	350	Mature	370 ..	Blackwood Valley Skim
Clark, P. W., Whittlesea, Jersey (3).										
Clovelly Annette 2nd ..	33165	26.9.35	..	6,633	5.05	335.20	350	Mature	284, 430, 415, 341	Clovelly Chieftain
*Coodardy Gentle Anna-belle	Vol. 23	18.9.35	..	4,133	5.80	239.66	230	Jr. 2	.. ..	Bellefaire Postmaster's Postmark
Coodardy Gloria 4th ..	47691	21.8.35	10	5,327	5.02	267.22	270	Jr. 3	278 ..	Kantara Don Juan
Colenso, L. W. R., Alvie, Jersey (4).										
Maxon Count's Alsike ..	45056	25.7.35	14½	6,555	5.95	390.22	250	Sr. 2	276 ..	Maxon Count Graceful
Normandie Hawthorn 4th	45471	3.7.35	12	6,959	5.61	383.13	250	Sr. 2	.. ..	Peer of Lewisham
Normandie Ilma ..	23329	20.8.35	15	9,155	4.65	425.38	350	Mature	325, 479, 445, 362, 420	Thelma's King of St. Albans
†Normandie Mayflower 2nd	33192	2.8.35	4	5,430	4.51	299.34	350	Mature	277, 397, 343, 339	Thelma's King of St. Albans
Coughlin, C., Yannathan, Jersey (5).										
Glady's Park Blue Bell ..	43934	6.8.35	7	4,097	6.16	252.22	270	Jr. 3	287 ..	Werribee Bluebell's Master-piece
Glady's Park Lettie 2nd's Bluebell	37140	6.8.35	13	6,119	5.80	355.14	330	Sr. 4	422, 419	Werribee Bluebell's Master-piece
Glady's Park Master's May	43939	24.7.35	15	5,747	5.94	341.33	270	Jr. 3	323 ..	Werribee Bluebell's Master-piece
Glady's Park Starbright ..	C.R.	17.8.35	20	7,035	5.15	362.09	250	Sr. 2	.. ..	Werribee Bluebell's Master-piece
Glen Alvie Millicent ..	48231	23.9.35	14	4,952	5.48	271.18	230	Jr. 2	.. ..	Edmonton Butter King
Coulthard, J. L. and Sons, Whittlesea, Jersey (2).										
Lauriston Master's Belle ..	40641	8.9.35	17	6,380	5.54	353.49	290	Sr. 3	.. ..	Rathlyn Lily's Master
Strathview Buttercup 2nd	42056	28.8.35	18½	6,687	4.33	289.40	350	Mature	.. ..	Pat of Belgonia
Crawford, Mrs. E., Traralgon, Jersey (1).										
‡Kameruka Masterpiece's Bridesmaid	44604	2.7.35	..	6,063	4.62	279.92	270	Jr. 3	314 ..	Werribee Cream's Master-piece
Day, E., Penshurst, Jersey (2).										
View Point Butterfly ..	C.R.	14.9.35	13	5,735	4.86	278.50	230	Jr. 2	.. ..	View Point Noble
View Point Sunlight ..	28643	9.9.35	11	7,077	4.87	344.56	350	Mature	242, 384, 383, 344	Bracondale First Choice
Dee, J., Clyde North, Jersey (3).										
Clydevale Carnation ..	C.R.	6.7.35	10	4,110	4.88	200.64	230	Jr. 2	.. ..	Banyule Blende
Clydevale Dahlia ..	C.R.	7.7.35	10	4,240	6.00	254.30	230	Jr. 2	.. ..	Banyule Blende
Clydevale Norma ..	C.R.	8.9.35	8	3,525	4.49	158.29	230	Jr. 2	.. ..	Banyule Blende

* 240 days in test.

† 240 days (sold).

‡ 246 days in test (herd withdrawn).

STANDARD HERD RECORDS—continued.

Name of Coo.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
De La Rue, N. C., Weering Jersey (2).										
Lucerne Vale Master's Choice	49245	27.7.35	9½	3,877	5.86	227.31	230	Jr. 2	..	Werribee piece Fancy Master-
Lucerne Vale Master's Choice 2nd	49246	3.9.35	14	4,589	6.21	284.76	230	Jr. 2	..	Werribee piece Fancy Master-
Department of Agriculture, Werribee, Friesian (5).										
Victoria Choree ..	Vol. 13	13.8.35	23½	7,436	3.54	263.37	230	Jr. 2	..	Victoria Double Top
Victoria Domino Patch ..	3255	15.8.35	32	13,710	3.10	424.37	350	Mature	382, 372, 408, 441, 466	Victoria Patch
Victoria Galety ..	4287	3.7.35	18	10,367	3.45	357.84	290	Sr. 3	370	Victoria Topnote
Victoria Songstress ..	3768	16.9.35	27	14,150	3.07	434.05	350	Mature	347, 435, 468	Victoria Joyous Mercedes
Victoria Soprano ..	3265	23.8.35	36½	13,751	3.61	495.87	350	Mature	372, 454	Victoria Topnote
Department of Agriculture, Werribee, Red Poll (8).										
Victoria Decreet ..	3092AA	1.8.35	13½	6,030	4.20	253.19	250	Sr. 2	..	Victoria Iraq
Victoria Glitter ..	3009A	21.9.35	12½	7,056	4.13	291.33	310	Jr. 4	239, 367	Dominion Bright Belgian
Victoria Kosher ..	3914A	28.7.35	12	7,615	3.76	286.06	290	Sr. 3	196	Dominion Bright Belgian
Victoria Philtre ..	3820A	28.7.35	5	5,597	3.81	213.00	250	Sr. 2	..	Victoria Brilliance
Victoria Pocket ..	3030A	27.7.35	20½	8,815	3.84	338.60	310	Jr. 4	318	Dominion Bright Belgian
Victoria Purse ..	2332A	9.9.35	11	7,085	4.21	298.19	350	Mature	327, 318, 425, 391, 376	Victoria Air Marshall
Victoria Rosemarie ..	2760AA	1.8.35	10	7,094	3.92	277.90	310	Jr. 4	294	Victoria Royal Ringer
Victoria Royal Regal ..	3517AA	31.7.35	10	6,375	4.25	271.01	270	Jr. 3	..	Victoria Royal Ringer
Desmond, J. J., Rochester, Jersey (10).										
Macroom Countess 2nd ..	C.R.	29.6.35	17	6,387	4.78	305.42	250	Sr. 2	221	Glenalvie Statesman
Macroom Edna 3rd ..	Vol. 23	23.9.35	14	5,103	5.69	290.30	230	Jr. 2	..	Glenalvie Statesman
Macroom Ellen ..	37221	29.7.35	16	6,654	5.11	339.95	350	Mature	293, 360	Belgonia Battery
Macroom Ellen 2nd ..	44991	4.8.35	21	7,233	5.34	386.36	290	Sr. 3	285, 359	Belgonia Battery
Macroom Ellen 4th ..	Vol. 23	3.8.35	22½	7,095	5.33	377.84	230	Jr. 2	..	Macroom May Be
Macroom Farm Lass 2nd ..	49324	22.7.35	4	6,710	4.60	308.50	250	Sr. 2	301	Glenalvie Statesman
Macroom Ellen 5th ..	C.R.	25.8.35	15½	6,147	5.33	327.74	230	Jr. 2	..	Belgonia Battery
Macroom Lovebird ..	40854	27.7.35	20½	8,642	5.38	464.70	290	Sr. 3	331	Belgonia Battery
Macroom Lovebird 2nd ..	49325	25.9.35	13	6,701	5.53	370.69	270	Jr. 3	354	Glenalvie Statesman
Macroom Lovebird 3rd ..	Vol. 23	12.7.35	8	4,803	4.91	235.64	230	Jr. 2	..	Glenalvie Statesman
Dobson, R. J. M., Acheron, Jersey (9).										
Wattle Grove Beautiful ..	51141	9.9.35	15	6,120	4.45	274.09	230	Jr. 2	..	Fairview Chief
Wattle Grove Beauty ..	42449	27.7.35	12	7,002	5.28	369.60	310	Jr. 4	348	Wattle Grove Sydney
Wattle Grove Jennawarra ..	51142	16.8.35	12	6,121	4.85	297.16	230	Jr. 2	..	Fairview Chief
Wattle Grove Josephine ..	51144	6.8.35	12½	4,715	5.10	240.58	230	Jr. 2	..	Fairview Chief
Wattle Grove Pearlis ..	46648	12.7.35	11	6,186	4.97	307.29	250	Sr. 2	252	Fairview Chief
Wattle Grove Petunia ..	51145	22.9.35	13½	5,261	4.36	229.62	230	Jr. 2	..	Fairview Chief
Wattle Grove Precious Pet ..	25843	6.7.35	14	6,972	4.40	306.50	350	Mature	337, 327, 303, 435, 389, 383	Alert of Farrington
Wattle Grove Starbright 2nd ..	51147	16.8.35	12	5,403	4.82	260.59	230	Jr. 2	..	Fairview Chief
Wattle Grove Sun Girl ..	51147	14.8.35	11½	4,263	5.63	240.04	230	Jr. 2	..	Fairview Bonnie Lad
Dookie Agricultural College, Dookie, Ayrshire (4).										
Dookie Beeswax ..	21327	13.9.35	17½	10,838	4.04	438.38	350	Mature	345, 385, 418, 507	Majestic of Burwood
Dookie Sappho ..	23672	17.9.35	25½	11,932	4.73	564.52	350	Mature	451, 423, 545	Dookie Beau
Dookie Shirley ..	24815	4.7.35	26	12,258	4.04	495.41	350	Mature	466, 308	Longerenong Laurie
Dookie Susanna ..	28300	16.9.35	22½	7,378	3.98	293.82	230	Jr. 2	..	Dookie Emblem
Dwyer, G., Balwyn, Jersey (5).										
Karalee Linda 2nd ..	44643	4.9.35	13½	5,339	6.34	338.57	290	Sr. 3	256, 418	Karalee Volunteer 4th
Karalee Linda 3rd ..	48983	11.8.35	12½	4,913	6.70	331.96	270	Jr. 3	350	Karalee Volunteer 6th
Karalee Lola 3rd ..	Vol. 23	9.7.35	11	6,002	5.91	354.91	230	Jr. 2	..	Karalee Volunteer 8th
Karalee Lotus ..	Vol. 23	8.9.35	13	4,464	5.37	239.92	230	Jr. 2	..	Jubilee Leadlight
Shorcham Linda ..	23117	5.8.35	10½	4,799	5.97	286.47	350	Mature	194, 336, 346, 398, 343, 423	Monica 4th's Lad of Kingsvale
Enders, N. H., Stanhope, Jersey (11).										
Banyule Silvermine 61st ..	29035	14.8.35	28	10,844	5.25	569.39	350	Mature	490, 556, 694	Banyule Air Pilot
Banyule Silvermine 77th ..	37781	14.9.35	27	10,588	5.80	614.62	310	Jr. 4	401	Banyule Superstrain
Rintoul View Petal ..	37339	12.9.35	21	10,101	6.18	624.40	330	Sr. 4	484, 552, 623	Banyule Triplane
The Wattles Duchess 5th ..	46416	3.8.35	21	9,065	6.10	552.57	250	Sr. 2	407	The Wattles Biplane
The Wattles Joy 3rd ..	46418	15.8.35	25	10,686	5.31	567.05	250	Sr. 2	442	The Wattles Biplane
The Wattles Joy 5th ..	50352	20.8.35	28	9,542	5.19	495.53	230	Jr. 2	..	The Wattles Biplane
The Wattles Lady 2nd ..	50853	22.8.35	16	6,668	6.18	412.16	230	Jr. 2	..	The Wattles Biplane
The Wattles Myra 3rd ..	50856	11.7.35	21	7,569	5.33	403.61	230	Jr. 2	..	Banyule Supine
The Wattles Princess 4th ..	50857	6.9.35	17	6,966	5.78	402.86	230	Jr. 2	..	The Wattles Biplane
The Wattles Seville 2nd ..	46424	7.9.35	17	7,106	6.51	462.70	250	Sr. 2	317	The Wattles Biplane
The Wattles Silvermine ..	46425	17.8.35	28	11,561	5.27	608.99	270	Jr. 3	416	Duke of The Lake (imp.)

STANDARD HERD RECORDS—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk lb.	Average Test.	Butter Fat lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Esler, G., Tongala, Jersey (6).										
Ballara Ideal 4th	42860	14.8.35	16	8,402	4.78	401.67	290	Sr. 3	341, 365 ..	Ballara Neat Lad
Malwand Floss ..	25878	15.7.35	23	9,080	4.64	421.51	350	Mature	321, 350, 457, 488, 439, 382	Duke of Belgonia
Malwand Iris ..	37356	26.7.35	18	8,487	5.06	429.11	330	Sr. 4	350, 373, 410	Malwand Mischief
Malwand Mystery ..	37359	28.8.35	11½	7,043	4.67	356.63	350	Mature	324, 514, 413	Duke of Belgonia
Malwand Primula 2nd	Vol. 23	11.9.35	8½	5,402	5.22	282.12	230	Jr. 2	..	Aveley Rex
Malwand Starbright 2nd	Vol. 23	4.9.35	9	5,459	4.68	255.29	230	Jr. 2	..	Aveley Rex
Evans, A., Heywood, Jersey (4).										
Velveteen 11th of Banyule	21438	25.7.35	18½	8,841	4.76	420.54	350	Mature	420, 316, 425, 398, 473	Wotton Airman (imp.)
Boronia Farm Chalcedony	38997	30.6.35	11	6,266	4.49	281.37	290	Sr. 3	219, 332 ..	Boronia Farm Bonnie Chief
Boronia Farm Duchess ..	43102	29.6.35	9	5,739	5.51	315.95	250	Sr. 2	315 ..	Boronia Farm Noble
Boronia Farm Rose ..	33330	23.8.35	8½	6,341	5.18	328.54	350	Mature	253, 323, 313	Boronia Farm Prince
Fairchild and Clutterbuck, Tinamba, Jersey (2).										
Vaucluse KIRSTY 2nd	42367	15.9.35	13½	5,580	5.88	327.84	310	Jr. 4	232, 327 ..	Somerville Concentration
Vaucluse Tinsel ..	Vol. 23	20.8.35	11½	5,198	5.48	284.78	230	Jr. 2	..	Vaucluse Concentration
Findlay, T. R., Leitchville, Jersey (12).										
Leven Brae A-do Daisy ..	Vol. 23	24.8.35	16½	6,876	4.86	333.91	230	Jr. 2	..	Werribee Mikado
Leven Brae A-do Edith ..	Vol. 23	4.8.35	16½	7,469	4.82	360.15	230	Jr. 2	..	Werribee Mikado
Leven Brae A-do Shirley ..	Vol. 23	24.8.35	17	7,797	4.75	369.99	230	Jr. 2	..	Werribee Mikado
Leven Brae Choice ..	44888	4.8.35	14½	8,066	4.99	402.23	290	Sr. 3	321, 445 ..	Werribee Gaypiece
Leven Brae Estelle ..	44889	21.8.35	5½	5,530	5.64	311.94	290	Sr. 3	367, 370 ..	Werribee Gaypiece
Leven Brae Gay Daisy ..	44891	28.7.35	5	5,753	5.65	325.24	290	Sr. 3	374, 351 ..	Werribee Gaypiece
Leven Brae Gay Duchess ..	37376	16.9.35	12½	8,618	4.75	409.25	350	Mature	398, 455, 402, 581	Werribee Gaypiece
Leven Brae Gay Duchess 2nd	49171	22.9.35	13	6,812	5.32	362.16	250	Sr. 2	348 ..	Werribee Gaypiece
Leven Brae Gay Princess 4th	49172	21.8.35	14	6,492	5.86	380.68	250	Sr. 2	304 ..	Werribee Gaypiece
Leven Brae Joyce ..	37378	14.9.35	10½	6,225	5.22	325.00	350	Mature	261, 358, 457, 599	Werribee Gaypiece
Leven Brae May Queen ..	Vol. 23	4.8.35	15½	6,318	5.89	371.99	230	Jr. 2	..	Werribee Mikado
Leven Brae Queenie ..	33342	31.8.35	15	8,763	5.89	515.71	350	Mature	423, 553, 643, 567, 701	Werribee Gaypiece
Fixter, A., Boisdale, Guernsey (1).										
Fernlea Eve ..	2539	17.7.35	10	6,681	4.84	323.45	350	Mature	276, 307, 275	Yarraview Albert
Fixter, W. and Son, Boisdale, Jersey (1).										
Olivedale Jewel ..	34007	10.7.35	15	7,140	5.61	400.53	350	Mature	219, 342, 313	Studleigh Dandy
Foster Bros., Boisdale, Jersey (5).										
Boisdale Brunette 3rd	38942	27.7.35	13	6,611	5.73	378.56	310	Jr. 4	254, 307 ..	Gladiator of Springhurst
Boisdale Countess 2nd	37384	31.7.35	15½	7,693	5.11	393.43	350	Mature	251, 290 ..	Boisdale Emperor
Boisdale Netta 2nd	38947	7.8.35	8½	4,509	5.80	261.30	330	Sr. 4	230, 320 ..	Gladiator of Springhurst
Boisdale Sparkle ..	28702	25.7.35	20	6,791	5.98	406.03	350	Mature	304, 367, 487	Lord Island's Fancy of Brucevale
Heather 3rd of Springhurst	18931	18.7.35	25½	9,734	4.75	462.82	350	Mature	316, 364, 437, 393, 495, 465	Alloy of Banyule
Fraser, G. A., Addington, Ayrshire (5).										
*Bonnie Doon Eugene ..	24587	2.7.35	..	6,810	4.16	283.05	270	Jr. 3	288 ..	Glengowrie Baronet
Bonnie Doon Flossie ..	26970	12.8.35	12	6,819	3.76	256.40	230	Jr. 2	..	Glengowrie Masterpiece
Glengowrie Elma ..	23872	14.9.35	13	8,580	4.20	353.98	350	Mature	243, 248, 184, 350	Glengowrie Baronet
Glengowrie Ray ..	28468	9.8.35	32½	13,104	5.06	662.84	330	Sr. 4	297, 401 ..	Glengowrie Bold Baron
Tooleen Winnie ..	14895	5.9.35	9	7,575	4.02	304.75	350	Mature	262, 402 ..	Peer 2nd of Glengowrie
Gange, Mrs. E. M., Werribee South, Ayrshire (5).										
Roseleigh Bud ..	25406	2.9.35	7	6,531	4.25	277.76	310	Jr. 4	..	Roseleigh Advance
Roseleigh Dolores ..	26713	10.9.35	9	6,219	3.93	244.23	250	Sr. 2	..	Craigmore Lauder
Roseleigh Elaine 2nd	26710	18.9.35	13	6,566	4.15	272.50	230	Jr. 2	..	Cathcart Marvel
Roseleigh Rayma ..	27714	14.8.35	8½	4,667	4.03	187.94	230	Jr. 2	..	Cathcart Marvel
Roseleigh Valda ..	26719	27.8.35	5	7,103	4.17	296.42	270	Jr. 3	..	Cathcart Marvel
Gardener Bros., Welshpool, Jersey (15).										
Lauriston Bonnie Belle ..	49117	6.9.35	8½	4,307	5.77	248.37	230	Jr. 2	..	Lauriston Belle's Master
Lauriston Brown Belle ..	40637	24.9.35	8	7,134	5.13	366.23	310	Jr. 4	309, 426 ..	Lauriston Twyllish Nobility
Lauriston Butter Belle ..	28704	10.8.35	5	5,316	4.95	263.34	350	Mature	251, 307, 353, 378, 418	Lauriston Twyllish Nobility
Lauriston Charming Belle	24356	17.8.35	12	6,309	4.81	303.20	350	Mature	215, 283, 335, 335, 359, 329, 401	Maudbank Hero
Lauriston Fairy Belle 2nd	49118	27.8.35	14	5,606	4.83	270.87	230	Jr. 2	..	Rathlyn Lily's Master
Lauriston Island Belle ..	37407	31.8.35	10½	4,997	5.79	289.39	330	Sr. 4	297, 275, 394	Jerseyholm Island King 7th
Lauriston Lily's Duchess 2nd	49120	14.8.35	15½	6,182	5.32	328.96	250	Sr. 2	363 ..	Rathlyn Lily's Master
Lauriston Lily's Twyllish 2nd	49121	7.9.35	10	5,193	5.34	277.46	230	Jr. 2	..	Rathlyn Lily's Master

* 240 days in test (died).

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Gardener Bros., Welshpool, Jersey—<i>continued.</i>										
Lauriston Master's Belle 2nd	49122	17.9.35	10	5,292	5.05	267.41	230	Jr. 2	..	Rathlyn Lily's Master
Lauriston Master's Lotus ..	44831	6.9.35	10	5,058	5.08	302.26	250	Sr. 2	298	Rathlyn Lily's Master
Lauriston Master's Pansy ..	44832	22.8.35	13	6,672	5.42	361.75	270	Jr. 3	317	Rathlyn Lily's Master
Lauriston Mistress Pansy	40644	16.9.35	12	6,638	5.48	363.94	310	Jr. 4	251, 377	Rathlyn Lily's Master
Lauriston Musical Princess	34016	6.9.35	4	6,222	4.67	290.67	350	Mature	226, 317, 339	Musician of Warendia
Lauriston Noble Princess ..	44834	16.9.35	11	7,352	4.57	335.75	270	Jr. 3	246	Lauriston Twylsh-Nobility
Lauriston Princess Royal	37410	5.8.35	14	6,269	4.82	302.45	350	Mature	242, 326, 389	Lauriston Twylsh Nobility
Gay, R. G., North Devon, Jersey (8).										
Elm Grove Dairymaid ..	25899	8.8.35	18½	6,999	5.18	362.89	350	Mature	280, 262, 417, 468, 423, 418	Gold Star of Melrose
Elm Grove Dairymaid 2nd	43735	15.9.35	13	6,423	5.64	362.19	310	Jr. 4	275, 346	Warendia Ragtime Dominant
Elm Grove Dawn ..	Vol. 23	22.8.35	12½	5,909	5.14	303.57	230	Jr. 2	..	Gold Star of Melrose
Elm Grove Linda ..	43737	22.8.35	21	9,305	5.31	494.41	310	Jr. 4	285, 424	Gold Star of Melrose
Elm Grove Linda 2nd ..	Vol. 23	22.9.35	13	5,885	4.80	282.47	230	Jr. 2	..	Gold Star of Melrose
Elm Grove Linda 3rd ..	Vol. 23	5.9.35	14½	5,219	4.79	250.11	230	Jr. 2	..	Elm Grove Buttercup's Monarch
Elm Grove Silverbelle ..	23159	8.8.35	14½	6,092	5.03	361.13	350	Mature	296, 338, 423, 441, 478, 437, 433	Gold Star of Melrose
Elm Grove Milkmaid ..	34022	30.6.35	14	6,177	6.34	391.57	350	Mature	281, 342, 375, 443	Elm Grove Royal Lad
Gazzard, J. and H., Bostock's Creek, Jersey (1).										
Kameruka Amplifier's Ilma	40457	25.8.35	N.O.C.	6,954	5.13	356.49	330	Sr. 4	246, 377	Banyule Amplifier
Goddard, J. H., Jumbunna, Ayrshire (3).										
Don-ide Lydo Lady ..	23657	24.8.35	30	13,403	4.64	621.93	350	Mature	457	Olive Dale Chum
Inverurie Oille Lady ..	27418	6.9.35	6	5,832	4.30	250.74	230	Jr. 2	..	Oakbank Radio
Inverurie Rayda ..	27419	14.9.35	16	8,321	4.72	392.90	230	Jr. 2	..	Oakbank Radio
Goldschmidt, O., Bacchus Marsh, Jersey (11).										
Crystal Brook Bloom ..	47798	24.9.35	12	4,556	5.93	270.13	230	Jr. 2	..	Crystal Brook Noble
Crystal Brook Dawn ..	47802	24.9.35	10	5,130	5.70	292.65	230	Jr. 2	..	Crystal Brook Noble
Crystal Brook Lena ..	47820	22.9.35	12	4,999	5.95	297.39	230	Jr. 2	..	Paisley Game Master
Crystal Brook Zetty ..	47833	22.9.35	10	4,944	5.81	287.29	230	Jr. 2	..	Crystal Brook Noble
Grangelea Bell 2nd ..	48516	17.9.35	16½	5,769	4.98	287.20	230	Jr. 2	..	Clarendon Eyre Eminent's Ruddigore 3rd
Grangelea Dulcie 2nd ..	48520	29.8.35	18	4,824	5.48	264.30	230	Jr. 2	..	Grangelea Daffodil's Afro
Grangelea Pet ..	40063	16.9.35	16½	6,641	5.63	373.75	290	Sr. 3	317, 354	Banyule Macon
Grangelea Pet 3rd ..	48522	26.8.35	19	4,497	5.23	235.14	230	Jr. 2	..	Banyule Macon
Grangelea Prim 5th ..	48523	1.9.35	15	4,575	6.74	308.44	230	Jr. 2	..	Grangelea Cream Boy
Grangelea Robena ..	44177	1.9.35	17	6,216	5.69	353.57	250	Sr. 2	346	Grangelea Daffodil's Afro
Grangelea Rosebud 6th ..	44179	12.9.35	16	5,148	5.25	270.02	270	Jr. 3	287	Banyule Macon
Gregg, V., Whittlesea, Jersey (4).										
Stoneycroft Blossom 2nd ..	C.R.	14.8.35	12½	6,593	5.25	346.01	270	Jr. 3	283	Kantara Don Juan
Stoneycroft Roma 2nd ..	C.R.	19.8.35	18½	6,624	5.04	334.13	250	Sr. 2	..	Toorong Mercedes King
Stoneycroft Una 2nd ..	Vol. 23	5.8.35	10	6,870	6.29	432.29	310	Jr. 4	411	Toorong Mace
Stoneycroft Una 3rd ..	46210	22.7.35	16	7,985	4.91	391.96	310	Jr. 4	341	Toorong Mace
Handbury, J. E. and Son, No. 1 Farm, Toora, Jersey (19).										
Kyora Bettws-y-Coed 6th	49061	12.7.35	10½	5,207	6.20	322.88	230	Jr. 2	..	Gadget (Imp.)
Tooravale Lassie 2nd ..	25904	31.8.35	20	8,073	5.85	471.99	350	Mature	310, 408, 450, 537, 520, 493	Welkin of Melrose
Tooravale Lassie 3rd ..	25905	2.8.35	14½	6,944	5.50	381.60	350	Mature	242, 331, 488, 482, 490	Welkin of Melrose
Tooravale Lassie 4th ..	28730	3.8.35	13½	7,712	6.16	475.15	350	Mature	275, 286, 471	Welkin of Melrose
Tooravale Lassie 5th ..	28731	2.8.35	11	5,636	6.22	350.63	350	Mature	297, 370, 432, 302, 436	Welkin of Melrose
Tooravale Lassie 8th ..	42252	2.8.35	5½	4,549	6.70	304.75	350	Mature	352, 407, 553	Tooravale Gold Speck
Tooravale Lassie 12th ..	50891	27.7.35	10	5,259	5.66	297.92	250	Sr. 2	360	Kingsvale Monica 14th's Son
Tooravale Lassie 13th ..	Vol. 23	8.9.35	14	4,909	6.32	278.53	270	Jr. 3	..	Kingsvale Monica 14th's Son
Tooravale Lassie 14th ..	Vol. 23	14.8.35	12½	5,193	5.74	298.42	230	Jr. 2	..	Tooravale Gold Speck
Tooravale Lassie 16th ..	Vol. 23	18.8.35	9½	4,407	6.29	277.03	230	Jr. 2	..	Tooravale Gold Speck
Tooravale Lassie 17th ..	Vol. 23	9.9.35	21	5,553	5.72	317.85	230	Jr. 2	..	Kingsvale Monica 14th's Son
Tooravale Lassie Fowler 3rd	28733	8.9.35	19	6,777	5.35	362.28	350	Mature	251, 242, 356, 329, 334	Tooravale Gold Speck
Tooravale Milkmaid 14th	50896	12.8.35	9½	5,538	5.46	302.23	250	Sr. 2	410	Tooravale Monica's Son
*Tooravale Princess 4th ..	28738	21.8.35	4	3,030	5.64	170.85	350	Mature	244, 364, 327, 407	Tooravale Gold Speck
Tooravale Princess 7th ..	34056	29.7.35	14	8,684	5.42	470.43	350	Mature	285, 430, 597	Tooravale Gold Speck
Tooravale Princess 9th ..	46479	3.8.35	17	8,093	6.14	496.93	330	Sr. 4	351, 627	Tooravale Gold Speck
Tooravale Princess 12th ..	Vol. 23	11.8.35	12	4,718	5.93	279.57	230	Jr. 2	..	Tooravale Monica's Son
Tooravale Princess 15th ..	Vol. 23	15.9.35	11	3,924	5.82	228.38	230	Jr. 2	..	Kingsvale Monica 14th's Son
Tooravale Starleigh 9th ..	50899	15.8.35	7	4,464	6.25	279.17	270	Jr. 3	380	Tooravale Gold Speck

STANDARD HERD RECORDS—continued.

Name of Coo.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Handbury, J. E. and Son, No. 2 Farm, Toora, Jersey (11).										
Tooravale Clover 4th ..	Vol. 23	7.9.35	7	3,662	5.59	204.66	230	Jr. 2	..	Tooravale Monica's Son
Tooravale Lassic Fowler 6th	34051	10.8.35	8	4,656	5.53	257.58	350	Mature	269, 314, 381	Tooravale Gold Speck
Tooravale Lassic Fowler 8th	42254	14.8.35	10	5,997	5.43	325.58	350	Mature	286, 377, 435	Tooravale Golden Mac
Tooravale Lassic Fowler 10th	42255	30.8.35	4	5,148	5.45	280.34	330	Sr. 4	225, 298, 315	Kingsvale Monica 14th's Son
Tooravale Lassic Fowler 14th	50893	10.8.35	11½	5,006	6.22	311.46	250	Sr. 2	..	Kingsvale Monica 14th's Son
Tooravale May 5th ..	50591	31.7.35	9½	6,032	5.57	336.08	270	Jr. 3	382	Tooravale Gold Speck
*Tooravale Milkmaid 4th ..	28736	27.8.35	4	5,169	5.67	293.25	350	Mature	275, 372, 394, 434	Tooravale Gold Speck
Tooravale Milkmaid 6th ..	34053	2.8.35	6½	6,744	6.26	421.95	350	Mature	279, 344, 498	Tooravale Gold Speck
Tooravale Milkmaid 8th ..	42257	24.7.35	7½	5,019	6.09	305.67	350	Mature	276, 332	Tooravale Gold Speck
†Tooravale Starleigh 3rd ..	25909	2.8.35	4	5,355	5.17	277.03	350	Mature	261, 357, 328, 311, 327, 361	Welkin of Melrose
Tooravale Starleigh 7th ..	50898	29.8.35	17½	6,714	5.93	397.81	330	Sr. 4	233, 324, 461	Tooravale Gold Speck
Handley, S. C., Dandenong, Jersey (2).										
Barrowby Queen ..	34057	3.7.35	14½	6,979	5.57	388.76	350	Mature	311, 388, 388, 446	Barrowby Prince Jewel
Barrowby Rose Fancy ..	C.R.	23.8.35	22	5,754	5.49	315.64	230	Jr. 2	..	Wompini Twilight
Harvey, T., Boisdale, Jersey (4).										
Edmonton Vixen ..	23050	28.7.35	22½	10,280	5.31	545.85	350	Mature	493, 502, 544, 581, 532, 549	Big Chief of Glen Iris
Jerseyholm Bluebell 9th ..	25394	1.7.35	24½	9,128	5.10	465.73	350	Mature	361, 539, 494, 451	Lord Island Fancy of Brucevale
Empress 6th of Jerseyholm	18733	14.9.35	20	9,845	4.83	475.91	350	Mature	329, 445, 491, 618, 555, 566, 535	Handsome Boy 5th of Melrose
Jerseyholm Empress 22nd	37506	4.8.35	20½	7,817	5.02	392.65	350	Mature	344, 419	Lord Island Fancy of Brucevale
Haywood, Dr. A. R., Hastings, Jersey (5).										
Tiny 3rd of Beverley ..	21097	6.8.35	9½	6,939	5.12	355.40	350	Mature	282, 434, 262, 467, 453, 501, 387, 449	Rosella's Lad of Kingsvale
Gladys' Park Goldmine ..	39784	24.8.35	10½	5,037	5.43	273.39	310	Jr. 4	234, 301	Werribee Bluebell's Masterpiece
Unanderra Jonquil 3rd ..	Vol. 23	8.8.35	9	3,588	6.22	223.04	230	Jr. 2	..	Wompini Irish Lad
Windrest Chevy ..	42529	5.8.35	8½	4,527	6.39	289.43	270	Jr. 3	251, 359	Edmonton Rarious
Windrest Rose Marie ..	Vol. 23	26.9.35	10	4,078	5.67	231.34	230	Jr. 2	..	Clarendon Eyre Eminent's Achievement
Henderson, R. and Son, Macorna, Ayrshire (6).										
Grandview Blossom ..	20279	31.8.35	14	6,792	4.25	288.91	350	Mature	340, 421, 416, 496, 393, 429	Dudley of Oakbank
Ripon Lea Beryl ..	22034	4.9.35	15½	8,715	4.17	363.41	350	Mature	452, 359, 364	Lloyd of Cathcart
†Ripon Lea Bloom ..	24256	12.8.35	..	6,150	5.24	322.36	290	Sr. 3	257, 329	Lloyd of Cathcart
†Ripon Lea Ladylove ..	26678	19.8.35	..	4,920	4.38	215.58	250	Sr. 2	221	Lloyd of Cathcart
†Ripon Lea Violet ..	25258	10.9.35	6	8,673	4.42	383.55	330	Sr. 4	336, 390, 376	Lloyd of Cathcart
Ripon Lea Wattle 2nd ..	28794	4.9.35	13½	5,831	4.32	252.13	230	Jr. 2	..	Lloyd of Cathcart
Henderson, W., Grasmere, Ayrshire (10).										
Carracoorte Blanche 10th ..	24676	4.7.35	9	6,867	4.82	331.11	310	Jr. 4	255, 250	Bluebell's Pride of Glencourt
Carracoorte Briar Bud ..	23546	12.9.35	9½	6,549	4.52	296.07	350	Mature	286, 383, 330, 451	Carracoorte Lochiel
Carracoorte Bunt 17th ..	24685	24.9.35	8½	7,119	4.95	352.62	330	Sr. 4	280, 450	Bluebell's Pride of Glencourt
Carracoorte Fennella 16th	24689	8.7.35	10	6,498	4.34	281.92	330	Sr. 4	244, 335	Bluebell's Pride of Glencourt
Carracoorte Iris 22nd ..	25905	6.8.35	7½	6,473	4.22	273.03	290	Sr. 3	228	Carracoorte Maiden's Laddie
Carracoorte Maiden ..	24705	16.9.35	7	6,003	4.37	262.50	310	Jr. 4	215, 352	Gerty's Producer of Carracoorte
Carracoorte Pearl 11th ..	23553	24.8.35	4	7,671	4.35	334.05	350	Mature	307, 394, 401, 458	Carracoorte Lochiel
‡Carracoorte Viola 22nd ..	24712	4.8.35	4	4,635	4.83	224.04	330	Sr. 4	251, 304	Carracoorte Pilot
Carracoorte Viola 26th ..	C.R.	21.9.35	4	4,619	5.43	250.66	310	Jr. 4	101	Carracoorte Pilot
†Glencourt Buttercup 2nd	24597	12.9.35	4	4,693	4.43	208.14	310	Jr. 4	246	Belle's Best of Glencourt
Hercus, T. B., Hayanmi, Jersey (8).										
Mologa Bonnie ..	Vol. 23	11.8.35	17	6,161	5.76	354.82	250	Sr. 2	..	Belgonia Hinkler
Mologa Cherry ..	37558	13.8.35	22	8,996	5.04	453.02	350	Mature	434, 439, 496	Mologa Admiral
Mologa Isobel ..	C.R.	2.8.35	9	4,442	5.24	232.65	250	Sr. 2	230	Eurobin Biplane
Mologa Jessie 2nd ..	23211	8.8.35	23	9,540	4.38	418.02	350	Mature	491, 433, 440	Delight of Melrose
Mologa Pansy ..	49589	5.8.35	19½	8,468	4.73	400.74	270	Jr. 3	344	Belgonia Hinkler
Mologa Tulip ..	49590	7.8.35	16	6,870	5.51	378.50	270	Jr. 3	336	Belgonia Hinkler
Mologa Violet ..	49591	8.7.35	19½	8,966	4.76	426.61	290	Sr. 3	349, 387	Eurobin Biplane
Mologa Wattle ..	37561	20.9.35	14	6,719	4.68	314.13	350	Mature	321, 362, 394, 396	Prince of Mologa

† 254 days in test.

† 240 days in test.

‡ 240 days in test (sold).

§ 210 days in test.

STANDARD HERD RECORDS—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk lb.	Average Test.	Butter Fat lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Herd, L. J., Heldelberg, Jersey (4).										
Banyarra Attraction's Madeira 2nd	47115	20.7.35	11	5,005	5.92	296.32	230	Jr. 2	..	Retford King Bracken
Banyarra Trinket	34079	23.8.35	16½	7,262	5.06	367.20	350	Mature	..	Economist of Aveley
Banyarra Aria 2nd	47113	29.8.35	12	4,970	5.51	273.93	230	Jr. 2	..	Retford King Bracken
Banyarra Norma 2nd	37563	12.8.35	12½	5,901	6.37	375.85	330	Sr. 4	..	Superstrain of Banyule
Hore, E., Horfield, Jersey (7).										
Ballara Lassie 3rd	42861	17.8.35	28	9,185	5.31	487.28	290	Sr. 3	442	Brucevale Lord Fancy Madeira
Tavistock Larkspur	Vol. 23	20.8.35	26	7,245	5.98	433.46	230	Jr. 2	..	Werribee Ranger
Tavistock Mountain Maid	Vol. 23	10.9.35	21	6,804	5.87	399.38	230	Jr. 2	..	Werribee Ranger
Tavistock Valerie	Vol. 23	6.9.35	18	5,588	5.80	324.03	230	Jr. 2	..	Werribee Ranger
Troed-yr-Rhiw Bettwys	26039	12.8.35	16	7,281	4.78	348.34	350	Mature	264, 327, 241, 394	Cymro of Belgonia
Troed-yr-Rhiw Melys 2nd	C.R.	3.9.35	18½	5,904	5.01	296.06	230	Jr. 2	..	Troed-yr-Rhiw Masterman
Troed-yr-Rhiw Merthyr	50931	22.9.35	22½	6,908	5.03	347.47	250	Sr. 2	348	Glen Iris Montrose Duke
Hore, M. T., Horfield, Friesian (1).										
Elmar Keyes	Vol. 13	3.9.35	31½	12,015	4.36	523.71	270	Jr. 3	353	Greenvale Oakwood Posch
Houte, H. V., Tresco, Jersey (1).										
Mologa Sunflower	Vol. 23	7.7.35	10	4,630	4.72	218.38	250	Sr. 2	..	Belgonia Hinkler
Huffer, J. A., Gormandale, Jersey (19).										
Glen Valley Coral Sand 2nd	34090	22.8.35	14½	7,775	5.25	408.52	350	Mature	325, 389, 377, 458	Glen Valley Waverley's Count
Glen Valley Coral Sand 3rd	44110	1.9.35	17½	6,728	5.17	347.98	250	Sr. 2	285	Brucevale Wyandotte's King
Glen Valley Handsome Girl 2nd	40001	6.9.35	18	7,397	6.11	451.98	290	Sr. 3	281, 367	Glen Valley Buttermaker's Boy
Glen Valley Irish Rose	44113	30.8.35	14	5,982	5.51	329.72	250	Sr. 2	258	Glen Valley Handsom Boy
Glen Valley Joyce	48439	8.9.35	10	4,911	6.21	305.16	230	Jr. 2	..	Brucevale Wyandotte's King
Glen Valley Marigold	44115	19.8.35	13	6,135	6.22	381.42	270	Jr. 3	323	Brucevale Wyandotte's King
Glen Valley Myrtle	37610	1.8.35	17½	7,193	5.49	395.23	330	Sr. 4	306, 341	Glen Valley Waverley's Count
Glen Valley Rosebud's Perree's Fancy	21357	13.8.35	12½	7,031	4.90	344.72	350	Mature	307, 411, 445, 500, 546, 544, 419	Perree's Lad of Glen Valley
Glen Valley Roseleaf	48440	7.8.35	11	4,548	6.19	281.31	230	Jr. 2	..	Brucevale Wyandotte's King
Glen Valley Rose Marie	28983	14.7.35	18½	7,379	5.08	375.05	350	Mature	300, 358, 427, 364	Glen Valley Fancy Rose's Lad
Glen Valley Sand Daisy 3rd	48441	20.7.35	9½	5,304	5.33	282.56	230	Jr. 2	..	Glen Valley Royal Jester
Glen Valley Sand Daisy 4th	48442	30.8.35	13½	4,781	5.24	250.52	230	Jr. 2	..	Brucevale Wyandotte's King
Glen Valley Silvershine	..	29.8.35	15½	6,878	5.78	397.44	290	Sr. 3	282, 386	Melrose Ensign
Glen Valley Stumpy	48443	5.8.35	10½	4,683	5.98	280.11	230	Jr. 2	..	Brucevale Wyandotte's King
Glen Valley Waverley Lass 2nd	24405	28.8.35	15½	6,893	5.92	407.81	350	Mature	353, 394, 456, 456, 374	Tope Note of Glen Valley
Glen Valley Waverley Lass 5th	34096	20.8.35	14	5,927	5.93	351.52	350	Mature	220, 395, 354, 381	Cream Lad of Mayland
Glen Valley Waverley Lass 7th	48445	31.8.35	14½	5,482	5.56	304.71	230	Jr. 2	..	Brucevale Wyandotte's King
*Glen Valley Wyandotte	48446	16.8.35	..	4,935	5.76	284.13	230	Jr. 2	..	Brucevale Wyandotte's King
Melrose Mercedes	34098	17.9.35	11	7,163	5.19	372.09	350	Mature	327, 367, 321, 404	Masterpiece (imp.)
Hurrey, W. H., Koonwarra, Jersey (5).										
Kooreena Audrey 6th	49030	4.9.35	14	5,544	5.96	330.63	230	Jr. 2	..	Kooreena Carrie 3rd Halo
Kooreena Carrie 4th	49033	26.9.35	17	6,980	6.17	430.39	270	Jr. 3	..	Kooreena Carrie 3rd Halo
Kooreena Lady 6th	49035	19.9.35	13½	5,441	5.41	294.45	230	Jr. 2	..	Kooreena Carrie 3rd Halo
Kooreena Mourier 9th	49037	26.9.35	19	6,059	5.13	310.83	230	Jr. 2	..	Kooreena Carrie 3rd Delegate
Kooreena Mourier 10th	49038	17.9.35	8	3,834	6.13	234.87	230	Jr. 2	..	Kooreena Carrie 3rd Halo
King, H. W., Warragul, Jersey (7).										
Karoola Beauty	28996	8.8.35	9	7,440	5.21	387.71	350	Mature	323, 379, 400, 387, 434	Glen Valley Fancy Rose's Lad
Karoola Dianthus	37697	9.9.35	N.O.O.	7,076	5.07	358.54	310	Jr. 4	266, 368	Glenallen Mariposa
Karoola Doris	37698	6.8.35	7½	4,907	5.52	270.73	310	Jr. 4	249, 316	Glenallen Mariposa
Karoola Honey Bee 5th	40500	17.8.35	11½	7,364	4.85	356.95	330	Sr. 4	253, 302, 336	Glenallen Mariposa
Karoola Jean	C.R.	22.7.35	10	5,741	5.19	297.70	230	Jr. 2	..	Glenallen Mariposa
Karoola Merle	37700	22.8.35	10	6,092	4.35	265.25	290	Sr. 3	224, 285	Glenallen Mariposa
Karoola Sweet Nell	33441	25.7.35	9½	6,477	5.27	341.51	350	Mature	289, 378, 307, 446	Cream Lad of Mayland
Knowles, T., Dandenong, Ayrshire (12).										
Dandy Daphne	C.R.	17.7.35	14½	6,731	4.38	294.60	250	Sr. 2	..	Dandy Baronet
Dandy Lovelight	28245	10.7.35	19	7,188	3.83	275.60	250	Sr. 2	..	Beleura Flashdale
Dandy Maggie Lauder	28246	2.7.35	37	11,034	3.80	418.82	270	Jr. 3	..	Beleura Pensive
Dandy Pet	26003	7.9.35	15	7,559	3.93	297.02	330	Sr. 4	302, 335	Beleura Pensive
Dandy Plum Blossom	C.R.	17.8.35	12	5,421	4.68	253.78	230	Jr. 2	..	Gowrie Glen Gordon
Dandy Princess Mary	28248	17.8.35	10	5,681	4.56	259.11	230	Jr. 2	..	Maesgwyn Prince Alfred

* 210 days in test.

STANDARD HERD RECORDS—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Knowles, T., Dandenong, Ayrshire—continued.										
Dandy Zena ..	28251	17.7.35	17½	6,866	4.02	276.03	230	Jr. 2	..	Gowrie Glen Gordon
Dunachton Lantana ..	C.R.	7.7.35	11	5,718	4.56	280.55	250	Sr. 2	..	Dunachton Brightlight
Dunachton Lovely ..	28300	20.7.35	9½	5,075	4.04	205.24	250	Sr. 2	..	Dunachton Brightlight
Dunachton Rose ..	C.R.	25.8.35	6	4,962	3.77	187.05	230	Jr. 2	..	Dunachton Leander
Glencira Hebe ..	20132	24.8.35	12	9,029	4.01	362.10	350	Mature	205, 215, 339, 315	Algic of Oakbank
Goulburn Park Ada ..	27313	16.9.35	6½	6,685	4.94	329.16	290	Sr. 3	266	Goulburn Park Airman
Le Noury, E., Werribee, Guernsey (1).										
Werribee Rambler's Delight	3931	16.7.35	12	7,292	4.63	337.93	350	Mature	316, 351	Valentine Salone of Maple Lodge
Longerenong Agricultural College, Dooen, Ayrshire (1).										
Longerenong 2nd	Laurustine 26560	12.9.35	10½	4,892	4.52	229.90	270	Jr. 3	..	Longerenong Noble
Lowing, Mrs. L., Narre Warren, Guernsey (1).										
Stradbroke Witch 5th	3761	24.8.36	N.O.C.	6,863	5.02	344.33	310	Jr. 4	..	Wollongbar Hopetown
Lowing, Mrs. L., Narre Warren, Jersey (9).										
Troed-yr-Rhiw 2nd	Ceinwen 42296	23.8.35	N.O.C.	8,048	5.56	447.42	330	Sr. 4	239	Troed-yr-Rhiw Eclipse's Lad
Troed-yr-Rhiw Gwenda	37763	21.7.35	10	6,254	5.80	362.68	350	Mature	296	Glen Iris Montrose Duke
Troed-yr-Rhiw 3rd	Gwenneth Vol. 23	22.9.35	9½	5,941	4.98	295.76	230	Jr. 2	..	Glen Iris Montrose Duke
Troed-yr-Rhiw 3rd	Llinos Vol. 23	23.9.35	12½	5,551	4.98	276.43	230	Jr. 2	..	Troed-yr-Rhiw-Masterman
Troed-yr-Rhiw 2nd	Mifanwy 37766	12.8.35	12	7,018	5.61	393.56	350	Mature	339	Glen Iris Montrose Duke
Troed-yr-Rhiw Siroil	Vol. 23	21.9.35	9½	6,394	5.45	348.45	270	Jr. 3	..	Glen Iris Montrose Duke
Troed-yr-Rhiw 2nd	42297	13.9.35	8½	5,049	5.81	293.27	330	Sr. 4	327	Glen Iris Montrose Duke
Troed-yr-Rhiw Fydd 2nd	46508	23.9.35	9½	6,067	5.34	324.20	310	Jr. 4	..	Glen Iris Montrose Duke
Troed-yr-Rhiw Fydd 3rd	Vol. 23	20.9.35	6	5,702	5.61	319.64	230	Jr. 2	..	Troed-yr-Rhiw Masterman
Lyon, C. G., Heidelberg, Jersey (5).										
Banyule Molly 28th	24461	9.9.35	22	7,941	5.99	475.50	350	Mature	321, 450, 548, 431, 545	Noble Airman of Banyule
Banyule Molly 36th	34187	24.7.35	22	10,349	4.82	498.31	350	Mature	414	Concentration of Banyule
Banyule Silvermine 63rd	28844	22.7.35	18½	8,225	5.22	429.38	350	Mature	343, 329, 469	Air Lord of Banyule
Banyule Tiddlewinks 12th	38807	2.8.35	16	7,035	5.21	366.56	270	Jr. 3	..	Banyule Lord Silvalr
Banyule Silvermine 53rd	25471	28.7.35	27	10,853	5.02	544.60	350	Mature	387, 445, 465	Air Lord of Banyule
Lyon, W. H., Sale Jersey (10).										
Avon Betty ..	Vol. 23	3.9.35	10½	3,891	5.27	205.02	230	Jr. 2	..	Ruby's Beau (Imp.)
Avon Butterfly ..	Vol. 23	22.9.35	10	4,658	5.97	278.23	230	Jr. 2	..	Ruby's Beau (Imp.)
Avon Countess ..	Vol. 23	13.8.35	14	3,786	5.24	198.38	230	Jr. 2	..	Bellefaire Blond's Blondex
Avon Handsome Girl 3rd	28733	21.9.35	13	6,413	6.21	308.18	350	Mature	392	Jessie 13th's Count of Melrose
Avon Lady Elector 9th	Vol. 23	20.8.35	18	5,939	5.45	323.86	230	Jr. 2	..	Studleigh Lord Madeira
Avon Lassie Fowler 15th	Vol. 23	16.8.35	11½	5,168	4.92	254.39	230	Jr. 2	..	Studleigh Lord Madeira
Avon Little Nell 6th	38738	5.9.35	18½	7,595	5.90	448.31	330	Sr. 4	350	Jessie 13th's Count of Melrose
Avon Little Nell 5th	38737	6.9.35	17	6,914	5.52	381.93	330	Sr. 4	397	Jessie 13th's Count of Melrose
Avon Little Nell 8th	47073	14.9.35	10	6,027	5.49	330.92	270	Jr. 3	..	Avon Lassie Fowler's Count
Avon Ruby's Girl	Vol. 23	1.9.35	10½	4,428	5.43	240.25	230	Jr. 2	..	Ruby's Beau (Imp.)
Macaulay, C. W., Rochester, Jersey (1).										
Taranah Fairy Lady	42116	24.7.35	18½	7,665	5.22	409.20	330	Sr. 4	286, 344	Taranah Submarine
McCash, S. J., Wandin North, Jersey (2).										
Mornmoot Modesty 3rd	33139	14.7.35	15	6,524	5.34	348.32	330	Sr. 4	345, 450, 397	Werribee Prince Madeira
Mornmoot Modesty 5th	41128	7.8.35	16	7,033	5.39	380.29	250	Sr. 2	362	Werribee Prince Madeira
McDougall, J., Byaduk, Jersey (7).										
Park View Cornflower	50082	21.7.35	15	5,835	5.21	303.77	230	Jr. 2	..	Grangelea Royal
Park View Fancy	41513	9.7.35	15½	7,082	5.36	379.72	330	Sr. 4	281, 374	Grangelea Royal
Park View Lona ..	34206	19.7.35	10	7,080	5.39	381.48	350	Mature	315, 299, 303	Cream Lad of Fairview
Park View Myrtle	41517	15.8.35	9½	5,542	5.12	283.48	350	Mature	256	Prince of Park View
McInnes, A. A., Gunbower, Dairy Shorthorn (4).										
*Bracland's Pearl Beauty 18th	Vol. 1 D.S.H.	12.9.35	4	5,370	3.12	167.59	350	Mature	163, 270, 337, 291, 276	125th Earl of Pentland
Loch Ness Pearl Beauty 3rd	Vol. 1 D.S.H.	24.9.35	5	5,853	4.10	240.13	350	Mature	239, 250, 266	Braclands Matilda's Duke
Loch Ness Queenie	Vol. 1 D.S.H.	22.9.35	5	5,115	4.07	207.98	230	Jr. 2	..	Willow Park Banker 7th
Loch Ness Roan Moss	Vol. 1 D.S.H.	21.9.35	7	7,482	3.95	295.18	350	Mature	320, 299, 280	Braclands Matilda's Duke

* 210 days in test.

STANDARD HERD RECORDS—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
McNabb, G. A. and Son, Irrewillipe East, Jersey (20).										
Boorene Miss Linnacre 2nd	24245	21.7.35	12½	6,774	4.91	332.64	350	Mature	425, 476, 492, 507, 442, 542, 427, 461	Arcadia's V.C. of Woorlinga
Chief's Marie of Boorene	21104	23.9.35	13½	6,959	4.64	322.79	350	Mature	452, 402, 477, 434, 449, 375, 391	Chloe's Mercedes Chief of Glen Iris
*Boorene Silver Light	25542	26.8.35	4	6,315	5.83	368.07	350	Mature	377, 478, 493, 470, 519	Lady Grey's Silvermine 2nd of Somerset
Maxon Bright Alsye	37846	20.8.35	5	4,230	5.70	241.08	310	Jr. 4	262, 307, 415	Maxon Starbright's Prince 4th
Maxon Bright Favourite	45055	15.9.35	9½	6,380	5.36	342.28	270	Jr. 3	337	Maxon Starbright's Prince 4th
Maxon Bright Primrose	49420	27.7.35	10½	5,451	5.57	303.63	230	Jr. 2	..	Maxon Starbright's Prince 5th
Maxon Chieftain's Alsye	49422	6.9.35	7½	3,105	6.07	188.42	230	Jr. 2	..	Maxon Chieftain
Maxon Chief's Daisy	40927	19.8.35	6½	4,932	4.98	245.46	310	Jr. 4	251, 329	Maxon Mercedes Chief
Maxon Chief's Estelle	40928	7.8.35	12½	5,814	5.00	290.68	290	Sr. 3	240, 336	Maxon Marie's Chief
Maxon Count's Favourite 2nd	49423	15.9.35	8½	3,791	6.00	227.29	230	Jr. 2	..	Maxon Count Graceful
Maxon Graceful Bouvardia	49426	22.9.35	8	4,307	5.85	252.02	230	Jr. 2	..	Maxon Count Graceful
Maxon Graceful Marie	49428	24.8.35	8	3,426	5.84	200.24	230	Jr. 2	..	Maxon Count Graceful
Maxon Lodie	34219	28.6.35	13	5,097	5.46	278.26	350	Mature	274, 283, 277	Maxon Starbright's Prince 4th
Maxon Mercedes Favourite	45064	14.9.35	11½	4,145	6.53	270.69	250	Sr. 2	304	Maxon Mercedes Chief 4th
Maxon Mercedes Ranunculus	45067	28.8.35	13	4,848	5.83	282.60	250	Sr. 2	332	Maxon Mercedes Chief 4th
Maxon Noble's Alsye	34221	4.8.35	14	7,661	5.24	401.26	350	Mature	268, 421, 412, 459	Avalon Noble 8th
Maxon Noble's Goldfinch	45069	1.9.35	15	6,855	5.43	371.95	270	Jr. 3	331	Avalon Noble 8th
Maxon Tiare	40939	20.8.35	10	5,790	5.82	336.91	290	Sr. 3	240, 267	Maxon Mercedes Chief
Springhurst Easter Daisy 2nd	25543	14.8.35	10	4,934	6.26	308.85	350	Mature	245, 316, 362, 359, 379, 380	Starlight of Springhurst
Staghorn Morocco's Primrose	25544	17.9.35	15	7,748	5.03	389.70	350	Mature	289, 341, 274, 507, 400	Madeira's King of Staghorn
Maher, R. H., Tongala, Jersey (8).										
Rosemont Jenny Lind 10th	Vol. 23	13.9.35	10	3,044	5.67	223.73	230	Jr. 2	..	Rosemont Laddie Fowler 3rd
Rosemont Lady Fowler 5th	37876	13.9.35	10	5,927	5.71	338.37	350	Mature	319, 317, 299, 345	Rosella 2nd's Noble of Rosemont
Rosemont Lady Fowler 6th	41864	10.9.35	10½	5,487	5.31	291.36	350	Mature	305, 259, 344	Rosella 2nd's Noble of Rosemont
Rosemont Lady Fowler 7th	50457	30.8.35	9	5,662	5.35	302.97	310	Jr. 4	314	Troed-yr-Rhiw Masterpiece
Rosemont Lassie Fowler 4th	37877	5.8.35	14	5,878	4.43	319.14	350	Mature	280, 232, 380	Rosella 2nd's Noble of Rosemont
†Rosemont Lassie Fowler 6th	37878	12.9.35	4	2,160	5.23	112.92	350	Mature	271, 303, 311	Rosella 2nd's Noble of Rosemont
Rosemont Lassie Fowler 10th	50460	2.8.35	7	5,606	5.87	329.09	270	Jr. 3	270	Rosemont Laddie Fowler 3rd
Rosemont Primrose 4th	41866	28.8.35	10½	5,789	5.74	332.53	310	Jr. 4	365	Rosemont Laddie Fowler 3rd
Mailer, Dr. R., Shepparton, Jersey (25).										
Maneroo Amber's Queen	37881	24.9.35	N.O.C.	7,463	4.87	363.35	350	Mature	379, 504, 525	Wompini Royal Duke
Maneroo Belle	49360	4.7.35	8	4,927	4.95	244.06	290	Sr. 3	..	Maneroo Daphne's Twyllish Lad
Maneroo Betty	49361	21.8.35	7½	6,839	5.32	364.10	270	Jr. 3	..	Wompini Royal Duke
Maneroo Daisy's Buttercup 2nd	37883	18.8.35	7½	7,783	5.22	406.30	350	Mature	245, 483, 425	Wompini Royal Duke
Maneroo Daisy 4th's Buttercup	33494	7.7.35	7	6,455	5.02	323.74	350	Mature	302, 440, 475	Uranus of Aveley
Maneroo Dawn	37884	11.8.35	16	8,900	5.28	470.34	350	Mature	380, 572, 484	Maneroo Daphne's Twyllish Lad
Maneroo Eve	40875	17.9.35	N.O.C.	8,429	4.60	387.85	330	Sr. 4	457, 392	Wompini Royal Duke
Maneroo Faithful	..	12.9.35	N.O.C.	4,965	4.89	243.02	230	Jr. 2	..	Maneroo Daphne's Twyllish Lad
Maneroo Gem 3rd	Vol. 23	23.8.35	7	4,598	6.35	291.86	230	Jr. 2	..	Kantara Handsome Boy
Maneroo Grace	49364	21.8.35	8½	5,607	4.86	272.76	270	Jr. 3	..	Maneroo Daphne's Twyllish Lad
Maneroo Hazel	49365	14.8.35	10	5,760	6.25	359.77	250	Sr. 2	..	Kantara Handsome Boy
Maneroo Jade	40878	29.7.35	9	5,993	6.67	399.98	330	Sr. 4	339, 440	Wompini Royal Duke
Maneroo Jean	..	12.9.35	N.O.C.	5,738	5.14	294.87	230	Jr. 2	..	Maneroo Daphne's Twyllish Lad
Maneroo Joy	49367	29.7.35	18½	7,704	4.91	378.09	250	Sr. 2	..	Maneroo Daphne's Twyllish Lad
Maneroo Kathleen	49368	30.6.35	10	5,647	5.61	316.93	250	Sr. 2	..	Kantara Handsome Boy
Maneroo Kitty's Lass 2nd	34231	11.8.35	10½	9,302	5.09	473.76	350	Mature	366, 590, 576	Uranus of Aveley
Maneroo Larkspur	49369	16.7.35	12½	5,784	5.77	333.86	250	Sr. 2	..	Wompini Royal Duke
Maneroo Lillian	49370	13.9.35	N.O.C.	7,287	5.28	384.03	250	Sr. 2	..	Maneroo Daphne's Twyllish Lad
Maneroo Mabel	49371	1.7.35	11	5,628	5.62	316.48	250	Sr. 2	..	Kantara Handsome Boy

* 240 days in test.

† 120 days in test.

STANDARD HERD RECORDS—continued.

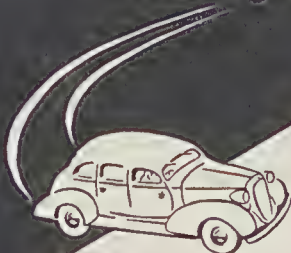
Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields at Butter Fat.	Sire.
Mailler, Dr. R., Shepparton, Jersey—continued.										
Maneroo Marchfly's Lass ..	37890	23.9.35	N.O.C.	7,568	5.63	425.95	350	Mature	372, 526, 471	Uranus of Aveley
Maneroo Melotte ..	49373	10.7.35	7½	5,956	5.74	341.89	290	Sr. 3	..	Wompini Royal Duke
Maneroo Rio Rita ..	Vol. 23	16.7.35	7	4,810	6.56	315.31	230	Jr. 2	..	Kantara Handsome Boy
Maneroo Sunshine ..	45023	16.7.35	9	8,730	5.11	445.81	290	Sr. 3	350	Wompini Royal Duke
Maneroo Velda ..	45024	7.8.35	14½	6,649	6.51	432.89	290	Sr. 3	339	Maneroo Daphne's Twyllish Lad
Maneroo Winifred Silvermine	40883	2.8.35	12½	5,810	4.81	279.56	290	Sr. 3	..	Maneroo Daphne's Twyllish Lad
Maloney P. J., Tongala, Jersey (17).										
Belgonia Design's Buttercup	42917	10.9.35	11½	6,867	5.54	380.26	270	Jr. 3	351	Design's Ruler (imp.)
Belgonia Design's Lady ..	42918	23.8.35	22	9,158	4.85	444.59	270	Jr. 3	427	Design's Ruler (imp.)
Belgonia Design's Noella ..	42697	12.9.35	18	8,587	5.47	469.65	310	Jr. 4	370, 462	Design's Ruler (imp.)
Belgonia Duke's Buttercup	47151	15.9.35	16	6,946	5.82	404.54	230	Jr. 2	..	Duke of The Lake (imp.)
Belgonia Elleen ..	38827	18.8.35	19	7,682	6.15	472.25	310	Jr. 4	390, 433	Werribee Planet
Belgonia Elleen 2nd ..	42921	18.8.35	24	9,520	5.88	560.69	270	Jr. 3	427	Duke of The Lake (imp.)
Belgonia Gem's Noella ..	42922	19.8.35	23	10,054	4.92	494.89	270	Jr. 3	367	Duke of The Lake (imp.)
Belgonia Junette ..	38829	5.8.35	21	7,064	6.14	433.51	270	Jr. 3	347	Retford Glider
Belgonia Marie 4th ..	24491	27.8.35	5	9,485	5.11	485.07	350	Mature	357, 512, 470, 571, 543, 598, 457	Aerial of Banyule
Belgonia Peggy 6th ..	29117	5.9.35	11½	10,476	5.19	543.70	350	Mature	469, 574, 643, 617, 464	Aerial of Banyule
Belgonia Peggy 9th ..	37898	10.8.35	21	9,413	5.12	482.10	350	Mature	354, 417, 450	Aveley Rex
Belgonia Peggy 11th ..	42923	18.8.35	14½	8,182	5.33	436.08	250	Sr. 2	372	Duke of The Lake (imp.)
Belgonia Peggy 10th ..	38831	14.8.35	17	9,175	5.25	481.47	290	Sr. 3	475, 473	Aveley Rex
Belgonia Suspense ..	42698	12.8.35	17	7,719	6.46	498.83	310	Jr. 4	415, 499	It of Oaklands
Leven Brae Empire ..	34001	5.9.35	22	9,521	5.10	485.46	350	Mature	357, 397, 437	Werribee Gaypiece
Leven Brae Perree's Girl ..	34001	27.8.35	27½	9,425	5.45	513.63	350	Mature	412, 515, 573, 513	Werribee Gaypiece
Suspense (imp.) ..	35383	23.9.35	12½	9,678	5.36	518.37	350	Mature	452, 609, 584, 543	Boutiller's Brampton Lad
Masters, S. H., Swan Hill, Jersey (4).										
Rutland Bright Stockings ..	41918	30.6.35	20	8,655	5.00	433.09	330	Sr. 4	275, 356, 437	St. Albans Fuchsia's Choice
Rutland Brunette 3rd ..	41919	10.8.35	17	9,456	4.82	456.05	350	Mature	374, 448, 474	St. Albans Fuchsia's Choice
Rutland Brunette 4th ..	50522	1.8.35	29	9,642	4.90	472.82	270	Jr. 3	399	Kingsvale Monica 23rd's Lad
Rutland Brunette 6th ..	50524	25.7.35	17	7,152	5.66	404.61	250	Sr. 2	292	Rutland Rover
Middleton, E. M., Hamilton, Jersey (13).										
Jubilee Clover ..	Vol. 23	13.7.35	11	5,255	4.70	247.19	230	Jr. 2	..	Jubilee Wattlelight
Jubilee Laurel ..	29346	11.9.35	14	6,060	5.53	359.21	350	Mature	399, 406	Jubilee Whatlight
Jubilee Rehmlania ..	38127	20.9.35	11	5,583	5.37	299.88	350	Mature	312, 404	Jubilee Whatlight
Jubilee Rochea ..	C.R.	8.7.35	12½	5,292	5.44	288.05	250	Sr. 2	..	Jubilee Asterlight
Jubilee Ruscus ..	Vol. 23	12.9.35	8	3,296	5.38	177.43	230	Jr. 2	..	Jubilee Asterlight
*Kyora Bettwe-y-Coed 3rd ..	38169	5.8.35	4	2,803	4.79	134.34	330	Sr. 4	154	Woodside Reprieve's Volunteer
Mornmoot Melody ..	28558	17.8.35	16½	7,193	6.23	448.17	350	Mature	425, 600, 639, 599	Clovely Sun King
Mornmoot Minx 4th ..	45265	26.8.35	10	4,445	5.82	258.52	230	Jr. 2	..	Werribee Prince Madeira
Mornmoot Modesty 6th ..	45266	26.8.35	16½	5,973	5.41	322.89	230	Jr. 2	..	Werribee Jupiter
†Selsey Sally 2nd ..	Vol. 23	13.9.35	..	2,910	5.89	171.45	230	Jr. 2	..	Brampton Great Boy (imp.)
Strathkellar Bettwe-y-Coed 2nd ..	Vol. 23	25.8.35	16	6,621	6.02	398.28	230	Jr. 2	..	Somerville Airpilot
Strathkellar Daisy 2nd ..	Vol. 23	26.8.35	9	4,065	6.39	259.70	230	Jr. 2	..	Somerville Oliver
The Wattle's Pearl 5th ..	Vol. 23	14.9.35	14	5,967	5.53	329.89	230	Jr. 2	..	Banyule Supine
Mitchell, R. H., Linton, Jersey (6).										
Clifford Farm Dawn ..	34263	15.9.35	21½	8,480	5.27	447.18	350	Mature	508, 518	Clifford Farm Eliminator
Clifford Farm Gladstone ..	32965	21.9.35	15½	8,050	5.86	471.79	270	Jr. 3	411, 465	Clifford Farm Eliminator
Clifford Farm Jessie ..	43440	7.9.35	25	9,257	4.50	416.93	270	Jr. 3	398	Clifford Farm Don
Clifford Farm Joyous ..	Vol. 23	9.9.35	15½	6,355	5.96	378.62	230	Jr. 2	..	Wompini V.C.
Clifford Farm Lady Jean ..	43401	16.8.35	17	8,171	5.48	447.55	250	Sr. 2	389	Wompini V.C.
Clifford Farm Lillas ..	43402	13.9.35	22	9,723	4.85	471.35	270	Jr. 3	453	Wompini V.C.
Meaklim Bros., Mooroopna, Dairy Shorthorn (1).										
Drumnell Fairy 2nd ..	Vol. 1 D.S.H.B.	31.8.35	23½	9,360	3.78	353.89	290	Sr. 3	..	Willow Park Reformer
Moore, J. and Co., Yarram, Jersey (13).										
Tooloonook Antimony's Bessie 4th ..	C.R.	10.7.35	9½	4,549	4.83	219.72	270	Jr. 3	216	Tooloonook Carob's Hero
Tooloonook Beauty 4th ..	33540	9.9.35	11	4,913	5.09	250.14	350	Mature	148, 249, 281, 307, 264	Heroic of Somerville
Tooloonook Heather 2nd ..	50883	2.7.35	9	7,305	4.58	334.30	350	Mature	228, 291	Heroic of Somerville
Tooloonook Lilac Bloom ..	33542	29.6.35	7½	5,857	5.25	307.24	350	Mature	263, 342, 355, 265, 287	Heroic of Somerville
Tooloonook Lotus 3rd ..	46167	16.8.35	12	6,543	4.12	269.81	290	Sr. 3	207	Heroic of Somerville
Tooloonook Maiden 4th ..	50885	22.7.35	8	3,399	4.77	162.12	250	Sr. 2	231	Heroic of Somerville
Tooloonook Molly 3rd ..	42247	11.8.35	9	6,687	4.26	285.20	330	Sr. 4	268, 368, 350	Heroic of Somerville
Tooloonook Peach 2nd ..	37958	25.7.35	8	7,236	4.23	305.90	350	Mature	298, 344, 443	Heroic of Somerville

• 180 days in test.

† 150 days in test (withdrawn owing to injury).

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- Machine in operation automatically oils itself.
- Main driving gear completely enclosed, giving perfect safety.

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M'CORMICK-DEERING

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Moore, J. and Co., Yarram, Jersey—<i>continued.</i>										
Tooloonook Trixie 6th ..	33549	5.8.35	11	6,080	5.36	325.71	350	Mature	208, 404, 281, 174	Heroic of Somerville
Tooloonook Trixie 15th ..	C.R.	9.8.35	12	5,498	5.35	294.14	250	Sr. 2	262	Tooloonook Carob's Hero
Tooloonook Trixie 18th ..	C.R.	19.9.35	12	4,621	5.11	236.09	230	Jr. 2	..	Tooloonook Peach's Noble
Tooloonook Verbena 2nd ..	37060	24.8.35	N.O.C.	5,250	4.81	252.31	350	Mature	257, 299, 255, 322	Heroic of Somerville
Tooloonook Verbena 6th ..	C.R.	19.8.35	N.O.C.	4,172	4.92	205.16	230	Jr. 2	..	Tooloonook Carob's Hero
Nancarrow Bros., Kerang, Jersey (2).										
Bellaire Molly 8th ..	37975	20.8.35	22	8,782	6.14	538.98	350	Mature	422, 430, 479	Werribee Fancy Clementine King
Bellaire Princess 4th ..	37122	11.9.35	23	8,904	4.72	420.67	350	Mature	479, 363	Thorn of Kingsvale
Nicholas, A. M., Sherbrooke, Jersey (20).										
Avonhurst Linda ..	33164	6.7.35	16	7,535	5.14	387.21	350	Mature	236, 303, 372, 402	Banyule Airshaft
Baucevale Fancy Star-bright 3rd	28544	9.9.35	19	8,294	5.83	483.87	350	Mature	314, 408, 510, 562	Masterpiece of Brucevale
Jubilee Eucalyptus ..	33795	13.8.35	20	8,873	5.42	481.06	350	Mature	303, 382, 391, 436	Jubilee Whatlight
Jubilee Euphobia ..	44527	14.8.35	12½	5,919	5.99	354.42	250	Sr. 2	294	Jubilee Wattlelight
Jubilee Maple ..	38343	29.7.35	17½	7,910	4.94	390.27	350	Mature	323, 281, 329	Jubilee Whatlight
Jubilee Myrtle ..	33665	22.9.35	16	8,567	4.02	421.28	350	Mature	343, 354, 400, 316	Jubilee Whatlight
Jubilee Ranunculus ..	26186	2.8.35	16	8,252	3.89	320.89	350	Mature	404, 449, 423, 424	Jubilee Fanlight
Jubilee Rhodanthe ..	44535	12.9.35	10½	5,448	6.14	334.52	250	Sr. 2	353	Jubilee Asterlight
Jubilee Ricious ..	38344	16.8.35	16	7,031	5.07	356.72	330	Sr. 4	264, 327, 352	Jubilee Wheatlight
Kantara Attraction ..	40486	9.7.35	19½	8,090	6.25	505.69	290	Sr. 3	350, 410	Ku Ku Fashion Plate
Preston Fernleaf's Princess ..	41629	7.7.35	21	9,009	4.50	432.65	310	Jr. 4	296, 426	Preston Merry King
Retford Magenta ..	11467	10.9.35	7	6,578	5.72	376.55	350	Mature	511, 449	Prometheus (Imp.)
Selsey Brampton Wyandotte	50565	1.7.35	16	6,255	6.12	383.05	230	Jr. 2	..	Brampton Great Boy (Imp.)
Selsey Design's Wyandotte ..	46130	23.8.35	12	6,383	6.04	385.33	250	Sr. 2	314	Design's Ruler (Imp.)
Selsey Lotus ..	50568	20.9.35	14	5,567	5.81	323.19	230	Jr. 2	..	Mornmoot Clementine's King
Selsey Ricious ..	50570	11.8.35	13½	5,202	5.76	299.59	230	Jr. 2	..	Brampton Great Boy (Imp.)
Selsey Starbright ..	50573	28.7.35	15	5,853	6.40	374.61	230	Jr. 2	..	Brampton Great Boy (Imp.)
Selsey Waterlily ..	50574	12.9.35	10½	4,520	6.60	298.43	230	Jr. 2	..	Brampton Great Boy (Imp.)
Selsey Wyandotte ..	41949	15.9.35	12	6,326	6.80	430.36	310	Jr. 4	319, 474	Werribee Wyandotte's King
Werribee Clementine Princess 3rd	24583	24.8.35	14	6,369	5.74	365.48	350	Mature	372, 340, 445, 364, 338, 531	Masterpiece (Imp.)
Noble, T. M. and Sons, Maffra, Jersey (4).										
Aveley Emmeline 2nd ..	29375	26.9.35	..	7,077	5.17	365.78	350	Mature	340, 520	Marc Anthony of Aveley
Finchley Master's Canary ..	Vol. 23	5.7.35	15½	6,065	6.39	387.72	230	Jr. 2	..	Finchley Masterman
Finchley Music 4th ..	Vol. 23	7.7.35	16	5,976	6.45	385.31	230	Jr. 2	..	Finchley Masterman
Linga Longa Wattle Speck	25574	3.9.35	22	9,032	5.52	499.01	350	Mature	317, 373, 410, 492, 558, 468, 480	Canary's Handsome Boy of Linga Longa
O'Neill, J., Echuca Village, Jersey (2).										
Ullina Heather Bell ..	46542	16.8.35	11	6,980	6.14	428.45	270	Jr. 3	407	Ballara Fancy's King
Foursell's Yvette ..	38349	26.9.35	10	7,869	5.15	405.20	350	Mature	490, 436	Belgonia Propeller
Overend, Mrs. A. C., Sale, Jersey (2).										
Bon Accord Madam Pompadour	29284	13.9.35	12	7,577	5.38	407.77	350	Mature	227, 330, 373, 266, 400	Bon Accord Torus
Peggy of Bon Accord ..	21545	24.9.35	14	6,660	5.68	378.34	350	Mature	260, 353, 364, 367, 374, 417, 312, 421	Picador of Bon Accord
Paddle, H. R., Hallam, Jersey (10).										
Owanyilla Gipsy 3rd ..	Vol. 23	20.7.35	7½	3,834	6.08	233.19	270	Jr. 3	..	Werribee Royal Master 2nd
Owanyilla Mercia 3rd ..	32490	31.8.35	13½	5,510	5.12	281.97	350	Mature	..	Admiral of Owanyilla
Owanyilla Millie ..	C.R.	15.8.35	8½	3,492	5.11	178.32	250	Sr. 2	..	Owanyilla Messines
Owanyilla Princess Dorothy 2nd	41455	26.9.35	..	5,163	5.06	261.45	350	Mature	..	Werribee Royal Master 2nd
Owanyilla Princess Dorothy 3rd	45603	30.8.35	11	5,228	5.40	282.06	310	Jr. 4	..	Werribee Royal Master 2nd
Owanyilla Rosebud 3rd ..	41457	26.7.35	10	5,027	5.52	277.53	330	Sr. 4	..	Werribee Royal Master 2nd
Owanyilla Princess Olive 8th	C.R.	10.8.35	9	4,070	4.82	195.91	230	Jr. 2	..	Werribee Royal Master 2nd
Owanyilla Rosetta ..	C.R.	25.7.35	11½	5,019	5.35	268.70	270	Jr. 3	..	Owanyilla Messines
Owanyilla Sweet Maid 2nd	Vol. 23	22.7.35	7½	3,792	5.59	211.83	270	Jr. 3	..	Werribee Royal Master 2nd
Owanyilla Wattle Glory ..	Vol. 23	14.8.35	6½	2,851	6.15	175.42	230	Jr. 2	..	Owanyilla Messines
Pattison, F., Tongala, Ayrshire (14).										
Borinya Queenie ..	26978	29.8.35	11	8,849	3.60	318.21	270	Jr. 3	322	Oakbank Wireless
Willow Park Amy ..	23342	29.7.35	10	9,018	3.80	342.67	330	Sr. 4	273, 332, 341	Willow Park Prince
Willow Park Ella ..	16926	21.9.35	4	7,382	3.91	288.40	350	Mature	303, 310, 302, 362, 368	Tonga Park James
Willow Park Elsie ..	26805	29.8.35	N.O.C.	5,310	4.28	227.38	250	Sr. 2	301	Willow Park Prince
Willow Park Empress ..	26806	7.9.35	7½	7,154	3.87	276.97	250	Sr. 2	250	Willow Park Prince

STANDARD HERD RECORDS—continued.

Name of Cow.	Her Book No.	Date of Calving.	Milk last ay of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Pattison, F., Tongala, Ayrshire—continued.										
Willow Park Fairy	22241	11.8.35	10½	6,624	4'02	266'03	350	Mature	260, 266, 259, 266	Clansman of Glenholme
Willow Park Jean	25567	4.9.35	19	8,118	3'69	299'62	290	Sr. 3	269	Willow Park Prince
Willow Park Lady	24457	7.9.35	18	8,969	3'95	353'91	290	Sr. 3	290	Willow Park Prince
Willow Park Lily	26807	4.9.35	4	7,142	4'14	295'60	270	Jr. 3	280	Willow Park Prince
Willow Park Marie	26808	14.9.35	4	7,467	3'75	279'83	250	Sr. 2	337	Willow Park Prince
*Willow Park Nell	22242	2.9.35	4	5,955	4'15	247'28	350	Mature	280, 260, 250, 260, 296	Clansman of Glenholme
Willow Park Pearl	22243	11.8.35	4	8,469	4'16	352'16	350	Mature	260, 318, 305, 330	Clansman of Glenholme
Willow Park Poppy	25568	12.8.35	17½	9,501	4'28	406'74	290	Sr. 3	352	Willow Park Prince
Willow Park Princess	26809	18.8.35	14	6,720	4'02	270'00	250	Sr. 2	..	Willow Park Prince
Payne, A. E. T., Lilydale, Guernsey (13).										
Clara's Fashion 7th (Imp.)	35200	3.9.35	29½	8,681	4'61	400'09	250	Sr. 2	..	Sunrise of Maple Lodge
Yarrowview Clara	3935	26.8.35	31	9,522	4'34	412'97	350	Mature	..	Sunrise of Maple Lodge
Yarrowview Clara 2nd	5165	1.9.35	19½	6,017	4'88	293'82	230	Jr. 2	..	Yarrowview Sequel's Slogar
Yarrowview Ella	1168	18.9.35	32	10,466	5'10	533'87	270	Jr. 3	..	Camellia's Majestic of Maple Lodge (Imp.)
Yarrowview Essie	5169	20.9.35	23	6,713	4'35	291'90	230	Jr. 2	..	Camellia's Majestic of Maple Lodge (Imp.)
Yarrowview Fleur	3557	5.9.35	11	7,061	4'69	331'10	270	Jr. 3	..	Woodland's Fleur-de-Lys (Imp.)
Yarrowview Fleur-de-Melba	3558	2.9.35	9	4,817	5'92	285'02	310	Jr. 4	..	Woodland's Fleur-de-Lys (Imp.)
Yarrowview Gem's Lady	1495	19.8.35	8½	4,992	5'26	262'67	350	Mature	..	Gem of Meadow View (Imp.)
Yarrowview Isa	3900	22.8.35	16½	7,481	5'16	386'11	270	Jr. 3	..	Camellia's Majestic of Maple Lodge (Imp.)
Yarrowview Julie	3560	7.9.35	21½	9,873	4'86	479'99	310	Jr. 4	..	Camellia's Majestic of Maple Lodge (Imp.)
Yarrowview Lady	5174	28.8.35	9	4,995	4'93	246'31	270	Jr. 3	..	Camellia's Majestic of Maple Lodge (Imp.)
Yarrowview Meta	5176	4.7.35	15	6,104	5'07	309'63	230	Jr. 2	..	Camellia's Majestic of Maple Lodge (Imp.)
Yarrowview Songstress	3567	20.8.35	23½	7,947	5'09	404'18	350	Mature	..	Melbourne Don 6th
Pearson, J., Nerrina East, Jersey (8).										
Glenmoor Peerless	33609	20.8.35	N.O.C.	6,384	5'17	330'30	350	Mature	354, 395, 395, 360, 410	Peerless 19th's Prince of Melrose
Warrawee Bluebell	38040	12.9.35	N.O.C.	8,685	4'86	421'85	350	Mature	336, 312, 282	Canary's V.C. of Kingsvale
†Warrawee First Choice	C.R.	21.9.35	4	4,845	5'59	270'96	230	Jr. 2	..	Banyule Tympani
Warrawee Jean	C.R.	15.8.35	N.O.C.	5,129	4'41	226'01	230	Jr. 2	..	Warrawee Trumpeter
Warrawee Melody	Vol. 23	15.7.35	13½	5,635	5'29	298'22	230	Jr. 2	..	Warrawee Trumpeter
Warrawee Music	38941	11.8.35	10½	6,407	5'08	325'67	350	Mature	422, 318, 301	Banyule Tympani
Warrawee Peggy	46023	22.7.35	10½	6,845	4'96	339'53	290	Sr. 3	287, 332	Banyule Tympani
Warrawee Peggy 2nd	Vol. 23	20.8.35	11	5,778	4'82	278'29	230	Jr. 2	..	Warrawee Bellboy
Phillips, J. H., Speewa, Jersey (1).										
Kantara Jessamine 2nd	40487	9.9.35	11	7,950	5'31	422'21	330	Sr. 4	331, 363, 404	Glen Iris Vallant Count
Pollard, C. F., Bonegilla, Jersey (2).										
Bonegilla Hyacinth	38052	25.8.35	4	4,932	5'84	288'17	350	Mature	315, 395, 341	Springhurst Byron
Bonegilla Rosebud	47319	17.8.35	6	4,611	6'94	319'84	250	Sr. 2	276	Avalon Gladstar 18th
Poyner, R., Lilydale, Jersey (4).										
Cream Belle of Kirkhill	21519	8.8.35	15½	7,612	5'05	384'71	350	Mature	270, 360, 376, 302, 440, 444, 347, 351	Major of Kirkhill
Kyora Foch's Anthem 2nd	23405	15.9.35	11	6,220	4'97	309'15	350	Mature	285, 317, 324, 306, 402, 381, 346, 354	Foch of Jerrara
Lilydale Golden Jazz	44904	13.8.35	10½	5,504	5'62	309'05	290	Sr. 3	319	Lilydale Dauntless
Womplini Chloe 6th	34288	24.8.35	17	8,095	5'33	431'18	350	Mature	358, 420, 430, 354	Werribee Masterman
Pullar, P. G., Tatura, Friesian (2).										
Goulburn Iona	2767	25.8.35	4	9,494	3'46	328'10	350	Mature	436, 426	Burnbank Iona Patch
Goulburn Iona's Sylvia	3482	29.6.35	26	13,023	3'64	474'01	350	Mature	463, 420	Burnbank Sylvia's Burkeyje
Raggatt, F., Tongala, Jersey (4).										
Clover Flat Glow 3rd	47646	17.7.35	16	6,063	5'31	322'23	250	Sr. 2	295	Staghorn Lotus Cream's Masterpiece
Mayland Heather Bell	26150	20.7.35	18½	7,608	6'13	466'51	350	Mature	336, 329, 401, 479, 538, 493, 491	Starbright's Prince of Glen Iris
Strathbow Goldie 8th	38089	27.7.35	15½	7,866	5'11	401'78	330	Sr. 4	288, 347, 316	Banyule Mollerne
Strathbow Goldie 10th	38090	7.7.35	22	7,508	5'58	418'82	310	Jr. 4	312, 425	Banyule Mollerne

* 255 days in test.

† 240 days in test.

STANDARD HERD RECORDS—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Raleigh, Miss H. E., Pakenham Upper, Jersey (4).										
Goronga Farm Aviatrix ..	44160	14.8.35	12	7,028	5.08	357.33	310	Jr. 4	329, 370 ..	Banyule Air Gun
Goronga Farm Lucky Star ..	48192	23.8.35	10	5,282	5.71	301.64	290	Sr. 3	268 ..	Goronga Farm Shooting Star
Goronga Farm Pierrette ..	48493	25.8.35	13	5,016	5.45	273.13	290	Sr. 3	294 ..	Banyule Air Gun
Mornmoot Modesty 2nd ..	33138	22.8.35	13½	7,095	5.28	374.60	350	Mature	381, 524, 543, 412	Cholrmaster of Banyule
Read, J. D., Springhurst, Jersey (3).										
Aconite of Springhurst ..	21598	10.8.35	26	9,908	5.01	496.19	350	Mature	417, 373, 501, 588, 567, 442	Othman of Springhurst
Springhurst Coronation	46182	11.0.35	11½	6,852	5.93	406.08	270	Jr. 3	323 ..	Design's Ruler (imp.)
Alsyke										
Springhurst Sybil Romneya	38109	3.9.35	18½	8,199	5.95	487.84	310	Jr. 4	335, 434 ..	Bellefairs Seaborn Successor
Rechenberg, J. F., Marshall, Ayrshire (7).										
*Camelot Bonnie Maid ..	24662	21.9.35	4	6,945	3.51	244.05	350	Mature	281, 333, 308	Scotswood Adonis Earl
Camelot Daffodil ..	24664	29.7.35	4	8,186	4.11	336.66	350	Mature	275, 328 ..	Scotswood Adonis Earl
*Camelot Doreen ..	22578	19.9.35	4	6,630	4.22	279.96	350	Mature	341, 410 ..	Sparrovale Ronald
Camelot Nellie ..	C.R.	16.7.35	9	5,001	4.38	219.06	230	Jr. 2	..	Gowrie Park Squire
Camelot Robina ..	24669	26.8.35	4	6,783	4.35	295.07	330	Sr. 4	290, 315 ..	Scotswood Adonis Earl
Camelot Roseleaf ..	22582	12.9.35	..	7,520	3.97	298.83	350	Mature	385, 419 ..	Sparrovale Ronald
Gala Flower ..	24908	22.9.35	..	6,041	4.09	283.05	290	Sr. 3	294, 243 ..	Scotswood Adonis Earl
Richardson, W. S., Bacchus Marsh, Jersey (3).										
Clarendon Eyre Waltz	33953	5.7.35	20½	8,938	5.02	448.30	350	Mature	368, 452, 447, 494	Eminents Achievement of Clarendon Eyre
Sutton Lea Alrmita ..	38135	12.9.35	10	6,057	5.09	308.51	350	Mature	294, 393, 245	Banyule Petalon 2nd
Sutton Lea Aria ..	46284	12.9.35	16½	6,641	5.88	390.58	310	Jr. 4	350, 370 ..	Banyule Petalon 2nd
Ronalds, O., Tarago, Jersey (4).										
Jindivick Heroine 4th ..	40413	9.9.35	19½	12,395	5.02	622.21	330	Sr. 4	433, 527, 648	Somerville Reputation
Jindivick Winsome ..	44517	20.9.35	19½	10,931	4.99	502.06	310	Jr. 4	347, 489 ..	Somerville Master Babs
Somerville Princess Valda	38185	20.9.35	19	9,363	4.51	459.81	350	Mature	303, 430, 512	Banyule Aeronaut
2nd										
Somerville Ramona ..	28781	16.8.35	19	8,531	6.36	542.23	350	Mature	491, 502, 624	Banyule Aeronaut
Salesian College, Sunbury, Ayrshire (1).										
Rupertwood Carnation ..	26722	11.7.35	16	6,812	4.33	294.66	270	Jr. 3	..	Rupertwood Billy
Salesian College, Sunbury, Friesian (7).										
Braemore Iona ..	Vol. 13	5.8.35	18	5,793	3.61	208.85	230	Jr. 2	..	Braemore Sylvia's Trumpeter
Elgin Glen Ashlynn ..	Vol. 13	29.6.35	20	7,904	3.55	280.37	270	Jr. 3	354 ..	Burnbank Majoe Duchman
Enterprise Lady Griselda ..	Vol. 13	9.9.35	10½	7,191	4.35	313.09	230	Jr. 2	..	Graindale Longbeach Hero
Glenloth Fancy ..	4,000	30.7.35	14	8,022	3.42	274.05	330	Sr. 4	..	Bolobek Boniface
Ingolston Bonnie Bess ..	4,090	11.7.35	21	8,327	3.66	304.78	290	Sr. 3	258, 307 ..	Greenvale Ideal Segis
Ingolston Jess ..	Vol. 13	27.7.35	24	7,154	3.95	282.90	310	Jr. 4	271, 341 ..	Greenvale Ideal Segis
Rupertwood Bonnie Bess ..	Vol. 13	24.9.35	21	7,474	3.58	267.71	230	Jr. 2	..	Ingolston Prince Cordylne
Schlipalius, A., Kilmany South, Jersey (7).										
Fairbank Bloom ..	33,734	21.8.35	8	4,610	5.71	263.28	350	Mature	273, 320, 314, 309	Royal Reserve of Somerville
Fairbank Bluebell ..	43845	25.9.35	8	4,620	5.05	233.22	270	Jr. 3	216 ..	Wompini Beau Brummel
Fairbank Choice ..	43847	13.9.35	5½	3,542	4.51	159.92	250	Sr. 2	187 ..	Wompini Beau Brummel
Fairbank Duchess 2nd ..	39699	30.8.35	12	5,338	5.51	294.39	270	Jr. 3	289 ..	Wompini Beau Brummel
Fairbank Fancy ..	43848	20.9.35	7½	4,446	5.30	235.70	270	Jr. 3	238 ..	Wompini Beau Brummel
Fairbank Josephine ..	48098	13.7.35	6½	3,963	4.89	193.82	230	Jr. 2	..	Wompini Beau Brummel
†Fairbank Madam Melba ..	Vol. 23	31.8.35	4	2,460	5.12	125.85	230	Jr. 2	..	Wompini Beau Brummel
Scott, Selwyn F. E., Scotshurn, Dairy Shorthorn (3).										
†Morven Cressida 36th ..	Vol. D.S.H.B.	30.8.35	4	6,525	3.40	221.61	350	Mature	331, 364 ..	Connaught 60th
Willow Park Bloom 2nd ..	Vol. D.S.H.B.	29.8.35	15	7,050	3.58	252.70	350	Mature	281, 338, 337, 311	Willow Park Reflector
Yuulong Rose ..	Vol. D.S.H.B.	15.9.35	20	7,682	4.04	310.22	290	Sr. 3	..	Willow Park Banker 3rd
Shearman, A. and W., Darnum, Jersey (4).										
Oak Park Princess 2nd ..	41321	15.8.35	16	6,463	6.07	392.23	310	Jr. 4	365, 490 ..	Brucevale Lord Fancy
Oak Park Royal Duchess ..	45496	8.9.35	13	6,428	6.68	429.55	290	Sr. 3	368, 469 ..	Brucevale Lord Fancy
Oak Park Sweet Lady ..	45498	12.8.35	14½	7,140	7.10	506.91	290	Sr. 3	372, 370 ..	Brucevale Lord Fancy
Sleepy Valley Milkmaid ..	C.R.	14.8.35	15	7,565	6.11	462.53	270	Jr. 3	315, 470 ..	Holly Dell Twyllish
Smith Bros., Mirboo North, Jersey (19).										
Sylvan Hill Bonnie Mary ..	Vol. 23	2.8.35	12	5,369	5.60	300.76	230	Jr. 2	..	Handsome Boy 3rd of Jersey-holm
Sylvan Hill Countess ..	38278	26.9.35	12½	7,079	5.19	367.29	350	Mature	443, 379, 384	Somerville Heir Apparent
Sylvan Hill Countess 2nd ..	Vol. 23	6.8.35	17	5,387	5.66	304.83	230	Jr. 2	..	Handsome Boy 3rd of Jersey-holm
Sylvan Hill Duchess ..	50736	27.7.35	16	6,539	5.36	350.26	290	Sr. 3	409 ..	Somerville Heir Apparent
Sylvan Hill Jewel ..	29487	29.8.35	15	6,513	4.80	312.84	350	Mature	434, 361, 443	Merry Lad of Sylvan Hill

* 240 days in test.

† 180 days in test

‡ 210 days in test.

STANDARD HERD RECORDS—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Smith Bros., Mirboo North, Jersey—continued.										
Sylvan Hill Joyful ..	50738	19.9.35	11½	6,560	5.13	336.82	270	Jr. 3	345 ..	Somerville Heir Apparent
Sylvan Hill Lorna ..	42092	29.8.35	11½	5,075	6.33	321.35	330	Sr. 4	312, 307, 334	Somerville Heir Apparent
Sylvan Hill Lotus ..	Vol. 23	7.9.35	11½	4,160	5.48	227.82	230	Jr. 2	..	Handsome Boy 3rd of Jersey-holm
Sylvan Hill Meadow Queen	Vol. 23	20.8.35	11	4,000	6.07	242.96	230	Jr. 2	..	Handsome Boy 3rd of Jersey-holm
*Sylvan Hill Molly ..	42093	20.9.35	11	5,790	4.77	276.00	350	Mature	270, 277, 375	Somerville Heir Apparent
Sylvan Hill Peeress ..	46302	19.8.35	17½	6,779	5.42	367.53	310	Jr. 4	276, 371	Sylvan Hill Starlight's Pride
Sylvan Hill Primrose ..	38284	14.8.35	15	7,917	5.41	428.33	350	Mature	392, 376, 460	Somerville Heir Apparent
Sylvan Hill Primrose 2nd ..	Vol. 23	16.8.35	0½	3,908	5.42	211.80	230	Jr. 2	..	Handsome Boy 3rd of Jersey-holm
Sylvan Hill Ruby ..	42094	12.9.35	12	6,750	4.46	300.74	330	Sr. 4	294, 336, 352	Somerville Heir Apparent
Sylvan Hill Sundowner ..	46307	22.9.35	11	6,373	5.89	375.36	310	Jr. 4	346, 423	Somerville Heir Apparent
Sylvan Hill Sunlight ..	Vol. 23	14.8.35	12	4,688	5.64	264.29	230	Jr. 2	..	Sylvan Hill Starlight's Pride
Sylvan Hill Sunshine ..	Vol. 23	28.8.35	12½	5,483	5.28	289.75	230	Jr. 2	..	Sylvan Hill Starlight's Pride
Sylvan Hill Sweet Pansy ..	Vol. 23	17.8.35	12	4,610	6.37	293.62	230	Jr. 2	..	Handsome Boy 3rd of Jersey-holm
Sylvan Hill Waterlily ..	38287	8.8.35	14½	5,652	5.38	304.18	350	Mature	387, 348, 370	Somerville Heir Apparent
Smith, E. L. and Sons, Woodend, Friesian (4).										
Bolobek Adellna ..	3005	21.9.35	8½	8,648	3.07	265.77	350	Mature	318, 344, 307, 262, 324	Bolobek Top Mast
Homeleigh Ivy Domino ..	4077	10.9.35	14½	9,924	3.82	378.68	350	Mature	310	Homeleigh Oakfield
Homeleigh Oliveleaf Fobes	4079	15.9.35	20	10,367	3.43	355.25	330	Sr. 4	286, 360	Homeleigh Oakfield
Pemberly Jessica Fobes ..	4194	24.8.35	32	13,298	3.57	474.91	310	Jr. 4	378, 412	Burnbank Prince Patch
Smith, G. and W., Fish Creek, Jersey (11).										
Elanora Bonnie Girl ..	38288	31.6.35	19	7,819	5.99	468.10	350	Mature	307, 417, 430	Burnside Harmony
Hazel Grange Minnehaha ..	33890	7.8.35	16½	7,790	4.55	354.61	350	Mature	393, 375, 422	Dunafries Minnie's Eminent Boy
Rydon Bonnie Girl ..	41921	30.6.35	19	7,796	5.73	446.09	290	Sr. 3	344	Burnside Harmony
Rydon Lady Patsy ..	29489	19.8.35	11	7,289	4.90	357.04	350	Mature	398, 348, 354, 350	Burnside Monitor
Rydon Linda 2nd ..	46106	3.8.35	18	6,321	6.22	393.28	250	Sr. 2	362	Melrose Migrant
Rydon Onyx ..	33766	28.7.35	13	6,959	5.56	387.01	350	Mature	355, 382, 453	Burnside Monitor
Rydon Opal ..	Vol. 23	2.8.35	17	6,048	5.33	322.51	230	Jr. 2	..	Rydon Sheik
Rydon Pearl ..	29490	6.7.35	11	6,498	5.02	326.10	350	Mature	247, 327, 362, 349	Burnside Monitor
Rydon Ruby ..	46108	29.8.35	18	7,140	5.16	368.63	250	Sr. 2	318	Melrose Migrant
Rydon Silver Belle 2nd ..	Vol. 23	15.7.35	16	6,014	6.54	393.24	230	Jr. 2	..	Melrose Migrant
Xavier Happy Gleam ..	33333	4.9.35	20	9,230	5.22	481.88	350	Mature	468	Karalee Duke
Stoll, Mrs. L. T., Rokeby, Jersey (5).										
Cloverbank Camellia 2nd ..	47650	5.7.35	6½	5,171	6.53	337.92	270	Jr. 3	235, 211	Cloverbank Lord Twyllish
Cloverbank Canary 2nd ..	38364	4.7.35	10	5,670	5.16	232.32	350	Mature	305, 305, 250, 270	Cloverbank Lord Twyllish
Cloverbank Chevy 2nd ..	43417	23.8.35	7½	5,964	4.71	280.87	310	Jr. 4	187, 258	Cloverbank Lord Twyllish
Cloverbank Gwen 3rd ..	C.R.	11.8.35	5	4,726	5.27	249.05	270	Jr. 3	225	Cloverbank Lord Twyllish
Melrose Chevy 18th ..	25692	4.9.35	N.O.C.	6,801	4.91	333.67	350	Mature	346, 326, 338, 295, 367	Sunset of Melrose
Stoney, W. B., Drouin West, Jersey (5).										
Tarago Bonnie ..	50767	21.7.35	8	4,327	4.87	210.59	270	Jr. 3	210	Glensk Eminent's Lightinn
Tarago Gem 2nd ..	Vol. 23	25.8.35	11	5,529	4.56	251.93	250	Sr. 2	..	Kingsvale Dolly 4th's Son
Tarago Gem 3rd ..	Vol. 23	3.8.35	7½	5,672	4.83	274.20	250	Sr. 2	..	Kingsvale Dolly 4th's Son
Tarago Jenny Lind ..	Vol. 23	8.9.35	15	4,736	4.99	236.22	250	Sr. 2	..	Kingsvale Dolly 4th's Son
Tarago Mystery ..	46339	12.8.35	7	5,115	6.22	318.17	290	Sr. 3	251, 314	Handsome Boy 12th of Jerseyholm
Taylor, C. G., Highton, Jersey (2).										
Leura Elaine 6th ..	40678	14.9.35	7	5,910	5.45	322.10	350	Mature	380	Leura Patricia's Grant
Thornbury Grange Elaine ..	40437	21.7.35	17½	5,993	4.80	287.60	250	Sr. 2	..	Leura Statesman
Teague, L. J. J., Riddell, Guernsey (1).										
Melbourne Golden Gem ..	4501	15.9.35	14½	6,479	5.16	334.64	270	Jr. 3	263	Nundorah Climax
Thomas and Taylor, Hamilton, Ayrshire (3).										
Carracoorte Betsy 26th ..	28168	18.8.35	17	6,711	4.57	306.84	250	Sr. 2	..	Carracoorte Panie
Carracoorte Lucy 13th ..	24702	15.7.35	16	9,050	4.10	379.37	350	Mature	383	Carracoorte Lochlel
Carracoorte Viola 28th ..	27014	10.9.35	12½	6,279	4.93	309.55	270	Jr. 3	288	Carracoorte Bluebell's Favourite
Tomasetti, B. G., Drouin West, Ayrshire (7).										
Glen Athol Dewdrop ..	26174	26.8.35	14½	7,449	4.54	338.43	290	Sr. 3	336	Tregorland King
Glen Athol Graceful ..	20074	3.9.35	7½	8,628	4.15	357.71	350	Mature	433	Glen Athol Jimmie
Glencorren Belle ..	28444	17.8.35	14½	5,726	4.68	267.84	230	Jr. 2	..	Gowrie Park Scottish Emblem
Glencorren Foam ..	21505	14.9.35	15	8,003	5.26	420.75	350	Mature	307, 444, 431, 481	Glen Athol Brilliant
Glencorren Violetta ..	20120	12.9.35	10	10,122	4.04	409.07	350	Mature	271, 317, 506, 472, 500	Glen Athol Jimmie
*Glencorren Virtue ..	C.R.	8.9.35	4	5,100	4.16	212.13	230	Jr. 2	..	Gowrie Park Scottish Emblem
Leithvale Ella ..	20465	21.7.35	15	8,066	4.52	364.60	350	Mature	292, 346, 359, 397	Glenclea Grantham

* 240 days in test.

STANDARD HERD TEST—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields at Butter Fat.	Sire.
Trewin, J. V., Nathalia, Jersey (4).										
Belgonia Blossom 7th ..	29112	7.8.35	26½	9,323	5.09	474.29	350	Mature	..	Aerial of Banyule
Weir View Greetings ..	42459	31.7.35	18½	6,407	5.03	322.56	270	Jr. 3	..	Belgonia Milkland
Weir View Wattle Blossom	38428	18.9.35	17½	7,092	5.07	359.80	310	Jr. 4	..	Belgonia Milkland
Weir View Golden Duchess	51161	31.8.35	20½	7,545	5.11	385.31	250	Sr. 2	..	Duke of The Lake (Imp.)
Tuckey, J. F., Alberton, Ayrshire (11).										
Tregorland Ingenue ..	22155	27.8.35	N.O.C.	7,925	4.69	371.88	350	Mature	236, 290, 335, 442	Gowrie Park Scotchman
Tregorland Doelle ..	C.R.	11.9.35	0½	5,825	4.35	253.37	270	Jr. 3	318	Gowrie Park Tourist
Tregorland Inkle ..	C.R.	25.8.35	21	9,296	4.25	395.25	310	Jr. 4	303	Gowrie Park Scottish
Tregorland Kea ..	C.R.	29.8.35	7	7,692	3.64	279.77	310	Jr. 4	231, 271	Gowrie Park Scottish
*Tregorland Keen ..	24425	15.8.35	11	7,605	3.81	290.04	350	Mature	280, 353, 376	Gowrie Park Scottish
Tregorland Kentle ..	C.R.	3.9.35	14	8,262	3.72	307.67	270	Jr. 3	326	Gowrie Park Scottish
Tregorland Kirk ..	22161	3.9.35	8½	9,521	3.67	349.32	350	Mature	230, 316, 316, 364	Tregorland Imperial
†Tregorland Kiwi ..	25537	1.9.35	4	9,041	3.85	348.07	330	Sr. 4	248, 282, 307	Gowrie Park Scottish
Tregorland Knocker ..	25538	25.8.35	11	7,448	3.87	288.41	350	Mature	233, 252, 285	Gowrie Park Scottish
‡Tregorland Kristina ..	19081	16.8.35	4	7,290	3.96	288.93	350	Mature	281, 299, 326, 279, 349, 350	Gowrie Park Scotchman
Tregorland Tourmaline ..	16868	19.8.35	10	8,265	4.05	335.03	350	Mature	202, 313, 335, 340, 377, 336, 359	Tregorland Idol
Vagg, E. J., Leongatha, Jersey (8).										
Bonnay Amanda's Doris ..	Vol. 23	30.7.35	18	6,041	5.08	306.78	230	Jr. 2	..	Jerseyinn Edith's Master-piece
Bonnay Jessamine's Mona	38974	22.8.35	13½	5,682	5.06	321.70	350	Mature	333, 371, 424	Welbourne Handsome Boy
Bonnay Lady's Amanda	38975	21.8.35	18	6,301	5.38	338.85	330	Sr. 4	266, 261, 267	Welbourne Handsome Boy
Bonnay Lady's Queen ..	47322	7.9.35	11½	5,828	6.56	382.44	290	Sr. 3	290	Jerseyinn Edith's Master-piece
Bonnay Mystery Maid 4th	38977	9.7.35	20	7,670	4.81	368.65	330	Sr. 4	280, 300, 295	Bonnay Handsome Boy
Bonnay Phyllis ..	38978	23.8.35	18½	6,732	5.41	364.31	350	Mature	301, 357, 389	Welbourne Handsome Boy
Rosyth Lady Tulip 3rd ..	38451	20.8.35	15	7,940	5.59	444.01	350	Mature	288, 387, 415, 446	Lord 2nd of Brucevale
Rydon May Queen 2nd ..	Vol. 23	15.8.35	19½	7,169	5.29	378.95	230	Jr. 2	..	Melrose Migrant
Van Brummelen, J. K., Lower Ferntree Gully, Friesian (4).										
Bolero Korndyke Marie ..	Vol. 13	9.8.35	N.O.C.	10,559	3.35	354.14	330	Sr. 4	224, 345	St. Albans Queen's Korn-dyke 2nd
Bolero Rose ..	C.R.	26.8.35	N.O.C.	15,619	3.40	531.57	350	Mature	254, 413	St. Albans Queen's Korn-dyke 2nd
Bolero Rose Marie ..	3360	9.8.35	N.O.C.	12,188	2.74	333.41	350	Mature	370, 336, 289, 403	Burnbank Inka Sylvia's Lad
Bolero Sylvia Maryke ..	3873	14.9.35	18	14,154	3.40	481.72	350	Mature	307, 409, 450	St. Albans Queen's Korn-dyke 2nd
Vaughan Bros., Girgarre, Jersey (9).										
Lynroy Beta ..	Vol. 23	6.7.35	25	8,657	4.98	431.55	270	Jr. 3	422	Werribee Laverock
Lynroy Fancy ..	38459	8.7.35	15½	8,675	5.21	451.76	350	Mature	445, 475, 335, 506	Sherborne Wyandotte's King
Lynroy Garnet ..	C.R.	7.7.35	28	6,714	5.81	389.79	250	Sr. 2	..	Werribee Laverock
Lynroy Gladys ..	38462	10.9.35	14½	7,469	5.72	427.55	350	Mature	433, 470, 472, 592	Sherborne Wyandotte's King
Lynroy Graceful ..	C.R.	13.9.35	21	10,073	5.62	566.10	310	Jr. 4	294	Sherborne Wyandotte's King
Lynroy Nancy 3rd ..	26269	11.8.35	16½	8,390	5.58	467.81	350	Mature	426, 450, 458, 410, 443	Choice 2nd of Tarnpurr
†Lynroy Pixie 2nd ..	49305	15.9.35	4	4,170	6.39	266.61	270	Jr. 3	468	Werribee Laverock
Lynroy Viola 3rd ..	38467	10.8.35	13½	7,105	6.00	426.57	350	Mature	335, 382, 382, 406	Sherborne Wyandotte's King
Lynroy Violet 3rd ..	Vol. 23	22.9.35	15	7,577	5.58	423.02	250	Sr. 2	..	Werribee Laverock
Wade, W. J., Stratford, Jersey (2).										
Inverbroom Empress 2nd ..	48762	27.9.35	14	7,575	4.62	349.04	230	Jr. 2	..	Economist of Aveley
Inverbroom Silver Empress	48764	1.8.35	16	6,578	4.63	304.25	230	Jr. 2	..	Inverbroom Lord Emperor
Walker, C. S., Swan Hill, Friesian (1).										
Warwick Piebe Canary ..	C.R.	19.9.35	30	11,435	3.50	400.05	290	Sr. 3	256, 340	Greenvale Woodcrest Oak-wood 2nd

* 240 days in test, (sold)

† 262 days in test.

‡ 240 days in test.

STANDARD HERD TEST—continued.

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Wallace, A., Kennington, Jersey (12).										
Grovelea Bonnie Bee ..	48574	5.9.35	6½	5,760	4.84	278.63	250	Sr. 2	..	Thornbury Bonnie Boy
Grovelea Bonnie Lass ..	48575	4.9.35	5½	5,861	4.76	278.72	250	Sr. 2	..	Thornbury Bonnie Boy
Grovelea Morocco ..	40128	28.8.35	6½	4,266	5.61	239.45	290	Sr. 3	..	Miama's Volunteer of Woodside
King's Vale Rosella 23rd ..	Vol. 23	25.8.35	7	5,637	5.45	307.32	230	Jr. 2	..	Melrose Waywode
Myall Dainty Model ..	45330	16.9.35	4	6,210	5.31	329.50	290	Sr. 3	..	Kyora Foch
*Myall Golden Bell ..	41201	16.8.35	4	4,965	4.40	218.34	310	Jr. 4	..	Myall Dainty Lad
†Myall Joybell ..	49743	18.7.35	4	2,655	4.27	113.49	250	Sr. 2	..	Kyora Foch
†Myall Nancy ..	45332	23.7.35	4	2,910	5.52	160.77	290	Sr. 3	..	Kyora Foch
Myall Snowdrift ..	41203	9.9.35	10	5,716	4.72	269.98	330	Sr. 4	..	Myall Dainty Lad
Preston Bonnie Morocco ..	41620	4.9.35	8½	5,231	4.29	221.23	310	Jr. 4	223	Preston Pretty King
Preston Daffodil's Fairy ..	41624	20.8.35	6	5,286	4.27	225.82	290	Sr. 3	..	Kyora Mayflower's Fancy
Vine Hill Pansy ..	29605	17.9.35	4½	6,248	4.42	276.04	350	Mature	281, 275, 337, 293	Preston Jewel's Count
Warragul High School, Warragul, Red Poll (2).										
Gipps Dorothea ..	28754	26.7.35	7½	5,588	4.55	254.18	330	Sr. 4	216, 205, 279	Woodburn Laureate
Gipps Haldee ..	36574	19.8.35	5½	6,200	4.22	261.34	290	Sr. 3	238	Gipps Byron
Webb, R. A., Irrewarra, Jersey (1).										
Xavier Echo ..	51354	9.8.35	18	6,414	5.11	327.50	270	Jr. 3	..	Rosecliff Mariposa's Master
West, J. C., Notting Hill, Illawarra, Shorthorn (3).										
Glenbrook Madge 2nd ..	2862	25.8.35	17	9,491	3.95	474.91	350	Mature	218, 295, 424	Lady Rosemont's Gerkin
Grange Lea Cinderella ..	11281	15.8.35	19½	7,718	3.73	287.51	230	Jr. 2	..	Grange Lea Deserter
Grange Lea Princess ..	11289	2.7.35	19½	8,909	3.36	299.09	230	Jr. 2	..	Grange Lea Deserter
White, R. T., Cardigan, Ayrshire (2).										
Dookie Twinkle ..	28301	20.9.35	9	7,443	3.61	268.87	230	Jr. 2	..	Dookie Patron
The Valley Birthday ..	24403	19.9.35	16	7,323	4.11	300.65	350	Mature	261, 315	Sunlight of the Valley
Williams, F. A., Bamawm Extension, Jersey (7).										
Avalon Gladstar's Pansy ..	28399	25.9.35	..	6,651	5.83	387.87	350	Mature	399, 378, 519, 431, 451	Gladiator of Springhurst
Bamawm Fancy Gem ..	47100	2.7.35	21½	5,903	6.05	357.30	230	Jr. 2	..	Bamawm Leon
Bamawm Mayflower ..	47101	17.9.35	21	6,851	5.69	389.88	230	Jr. 2	..	Bamawm Leon
Bamawm Primrose ..	47102	20.9.35	25½	8,648	5.45	470.91	250	Jr. 2	..	Bamawm Bonnie Boy
Mornmoot Mascot ..	28555	5.9.35	21	8,540	5.51	487.16	350	Mature	414, 450, 455, 406	Koomangoonong Prince Nephets
Taranah Hazel ..	38529	4.9.35	13½	8,474	5.53	468.64	330	Sr. 4	364, 401, 389	Duke of Invermay
Ballara Bonnie ..	33911	27.8.35	30	10,897	6.34	691.34	350	Mature	402, 565, 629, 634	Brucevale Lord Madeira Fancy
Wilmut, J., Pootilla, Jersey (5).										
Uphaven Jessie 2nd ..	50984	24.8.35	14½	6,169	5.57	343.42	270	Jr. 3	..	Wompini Royal Master
Uphaven Miss Grant ..	42333	2.8.35	21	7,643	4.65	355.11	330	Sr. 4	330, 339	Grant's Twylsh of Merivale
Uphaven Miss Grant 2nd ..	Vol. 23	17.8.35	16	5,928	5.37	318.28	250	Sr. 2	..	Wompini Royal Master
Uphaven Silvermine 2nd ..	Vol. 23	30.8.35	16	5,952	5.14	305.91	230	Jr. 2	..	Wompini Royal Master
Uphaven Tulip ..	38540	8.8.35	13	7,098	5.31	376.56	350	Mature	383, 395, 361	Grant's Twylsh of Merivale
Wilson, D. C., Derrinallum, Jersey (4).										
Ayton Law Queenie ..	33922	10.7.35	10	6,157	5.26	324.11	350	Mature	270, 245, 389	Wagga Yambll's Goddington Noble
†Ayton Law Silvie's Girl 3rd ..	C.R.	19.8.35	4	2,235	5.07	113.40	250	Sr. 2	139	Wagga Yambll's Goddington Noble
Ayton Law Tressa 2nd ..	C.R.	16.7.35	6½	3,770	5.54	208.80	250	Sr. 2	209	Ayton Law Quality's Noble 2nd
Ayton Law Tressa 3rd ..	C.R.	2.7.35	7½	3,200	5.74	184.07	230	Jr. 2	..	Ayton Law Quality's Noble 2nd
Wood, J. V. M., Heidelberg, Jersey (6).										
Clarendon Eyre Desert Song 2nd ..	Vol. 23	18.9.35	14½	5,001	5.39	269.46	230	Jr. 2	..	Clarendon Eyre Oxford Gamboe
Clarendon Eyre Little Buttercup 7th ..	Vol. 23	20.8.35	14½	4,709	5.54	260.74	230	Jr. 2	..	Clarendon Eyre Eminent's Achievement
Clarendon Eyre Merry Widow ..	42701	12.9.35	10	5,715	6.14	351.11	290	Sr. 3	270, 279	Viscount of Les Jardin
Clarendon Eyre Rose Marie 10th ..	Vol. 23	14.7.35	21½	6,426	5.64	362.33	230	Jr. 2	..	Clarendon Eyre Oxford Observer
Clarendon Eyre Tangerine 10th ..	Vol. 23	24.8.35	14	5,141	5.29	272.14	230	Jr. 2	..	Rochette's Golden (imp.)
†Clarendon Eyre The Daيلمald 2nd ..	43397	14.7.35	..	5,850	5.13	300.36	270	Jr. 3	278	Ruby's Beau (imp.)

* 240 days in test.

† 180 days in test.

‡ 210 days in test (sold).

Merit List of "Long Distance" Standard Test Cows.

Only cows that have exceeded 450 lb. butter-fat for all records are included—details are given of breed, name of cow, number of

records, average yields of all records, together with the highest record. (No age allowances are included.)

Breed.	Name of Cow.	Years under Test.	Average Yield Butter-fat.	Top Record Butter-fat.	Breed.	Name of Cow.	Years under Test.	Average Yield Butter-fat.	Top Record Butter-fat.
			lb.	lb.				lb.	lb.
Jersey ..	Miss Guy of Tarnpirr..	11	534	631	*Friesian ..	Bolobek Anne ..	7	502	604
Jersey ..	Tulip 2nd of Springhurst	11	456	584	Jersey ..	Ewelme Girl ..	7	498	630
*Dairy Shorthorn	Willow Park Cherry ..	10	599	737	Jersey ..	Daffodil of Grangelea..	7	496	549
Jersey ..	Bunt 2nd of Coliban	10	519	618	Jersey ..	Linga Longa Fairy's Handsome Girl	7	495	668
Jersey ..	Fairy of Taranah ..	10	483	560	Friesian ..	Holland Lass 2nd of Berry	7	492	680
*Dairy Shorthorn	Willow Park Fairy ..	9	609	745	Jersey ..	Silvermine 18th of Banyule	7	477	607
Jersey ..	Narcissus of Springhurst	9	554	640	Jersey ..	The Valley Wild Rose	7	466	522
Dairy Shorthorn	Willow Park Camelia..	9	505	614	Jersey ..	Lumeah Boronia ..	7	463	512
Dairy Shorthorn	Willow Park Moss Rose	9	500	612	Jersey ..	Werribee Wyandotte's Cream	7	460	559
Jersey ..	Tecoma of Springhurst	9	498	620	Jersey ..	Lassie of Strathbow ..	7	460	620
Jersey ..	Boorene Miss Linacre 2nd	9	456	507	Jersey ..	Tooravale Lassie 2nd..	7	460	567
Jersey ..	Graceful Countess of Lesterfield	9	455	607	Friesian ..	Dominion Coringa ..	7	458	499
*Friesian ..	Dominion Iona ..	9	454	749	Jersey ..	Daisy 3rd of Ballara ..	7	450	506
*Friesian ..	Westmere Oakwood Duchess	8	577	817	*Friesian ..	Springfield 9th ..	6	580	860
*Friesian ..	Halecote Oakleaf Fobes	8	554	693	*Jersey ..	Myra of The Wattles..	6	579	633
Jersey ..	Tomato of Springhurst	8	525	594	*Friesian ..	Darenth Black Rose ..	6	571	764
Jersey ..	Gladiolus of Springhurst	8	509	600	Jersey ..	Leven Brae Queenie ..	6	567	701
Jersey ..	Nardoo of Springhurst	8	507	674	Jersey ..	Beauty 4th of St. Albans	6	560	598
*Friesian ..	Victoria Lean Patch ..	8	507	700	Jersey ..	Belgonia Peggy 6th ..	6	552	643
Jersey ..	Empress 6th of Jerseyholm	8	502	618	Jersey ..	Wynette of Somerville	6	535	621
Jersey ..	Belgonia Marie 4th ..	8	499	598	Jersey ..	Harebell of Springhurst	6	533	601
*Friesian ..	May Queen 2nd ..	8	491	617	Jersey ..	The Wattles Myra's Choice	6	519	639
*Friesian ..	Greenvale Piebe Patch	8	484	659	*Jersey ..	Avalon Duchess ..	6	515	663
Ayrshire ..	Dolly 4th of Glengowrie	8	484	571	*Friesian ..	Springfield De Kol ..	6	515	666
Jersey ..	Rosebud 2nd of Paradise	8	469	540	Jersey ..	Princess 2nd of Strathbow	6	514	655
Jersey ..	Verbena of Glen Valley	8	463	531	Jersey ..	Patricia of Warena ..	6	510	558
Jersey ..	Primrose 2nd of Melrose	8	458	557	Jersey ..	Jubilee 15th ..	6	501	552
Jersey ..	Rarity 11th of Melrose	8	456	557	Jersey ..	Madrigal of Warena..	6	498	570
Jersey ..	Kings Vale Brunette 21st	8	456	536	Jersey ..	Garenne 2nd of Brucevale	6	498	627
Jersey ..	Romany Lass of Belgonia	8	455	537	Dairy Shorthorn	Willow Park Melba 2nd	6	497	547
Jersey ..	Linga Longa Wattle Speck	8	450	558	Jersey ..	Buttercup of Belgonia	6	489	546
Jersey ..	Werribee Fancy Madeira	7	571	698	*Friesian ..	Victoria Songbelle ..	6	489	576
Jersey ..	Beauty 4th of Somerville	7	557	713	Jersey ..	Glen Leigh Dora ..	6	488	572
Jersey ..	Edmonton Vixen ..	7	535	581	Friesian ..	Dominion Hyacinth ..	6	485	536
Jersey ..	Model of Ballara ..	7	536	619	Jersey ..	Tiddlewinks of Banyule	6	477	578
Jersey ..	Ragtime of Warena ..	7	532	616	Jersey ..	Canary 12th of Kingsvale	6	474	527
*Jersey ..	Molly 8th of Banyule..	7	522	637	Jersey ..	Molly 6th of Banyule..	6	473	613
Jersey ..	Empress of Jerseyholm	7	517	596	Jersey ..	Marie 2nd of Belgonia	6	472	553
Jersey ..	Goldy of Strathbow ..	7	509	669	Jersey ..	Madonna of Aberdour	6	471	552
Jersey ..	Eileen 2nd of Clarendon Eyre	7	503	564	Jersey ..	Brucevale Fancy Star-bright 2nd	6	469	609
					Jersey ..	Clarendon Eyre Little Buttercup	6	467	521
					Jersey ..	Mystery of Belgonia ..	6	466	535

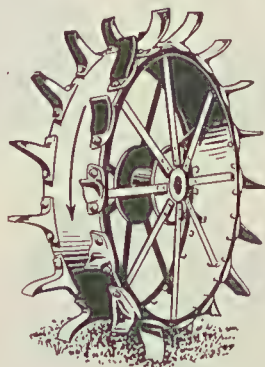
* Yield influenced by thrice-a-day milking.

MERIT LIST OF "LONG DISTANCE" STANDARD TEST COWS—continued.

Breed.	Name of Cow.	Years under Test.	Average Yield Butter-fat. ..	Top Record Butter-fat.	Breed.	Name of Cow.	Years under Test.	Average Yield Butter-fat.	Top Record Butter-fat.
			lb.	lb.				lb.	lb.
Friesian ..	Bainfield 40 ..	6	466	640	Jersey ..	Pearl's Girl of Coolwoola	5	488	707
*Friesian ..	Glen Elgin Clarice ..	6	466	524	Jersey ..	Maxon Mercedes Buttercup	5	488	589
Jersey ..	Jessie of Merridale ..	6	462	516	Jersey ..	Jenny Lind 10th of Melrose	5	485	523
Jersey ..	Ilma of Hazelbrock ..	6	462	569	Red Poll ..	Victoria Muria ..	5	481	706
Friesian ..	Burnbank Mercedes Violet	6	462	606	Friesian ..	Pauline of Ashby ..	5	479	558
Jersey ..	Banyule Molly 28th ..	6	462	547	Jersey ..	Leura Lady Elector 3rd	5	478	581
Jersey ..	Lassie 2nd of Ballara ..	6	461	561	Friesian ..	Burnside Korndyke ..	5	477	555
Friesian ..	Bolobek Agnes ..	6	461	631	Jersey ..	Carrie 3rd of Queensvale	5	477	577
Jersey ..	Glen Leigh Duchess ..	6	459	606	Jersey ..	Agnes 2nd of Warendale	5	475	573
Jersey ..	Waratta Ellen Bell ..	6	458	517	Jersey ..	Jerseyholm Empress 10th	5	475	544
Jersey ..	Karoola Honey Bee ..	6	458	533	*Red Poll..	Victoria Joan of Arc ..	5	474	569
Jersey ..	Kyora Dream Girl ..	6	458	517	Jersey ..	Lady Marge 5th of Jerseyholm	5	473	602
Jersey ..	Air Maid of The Falls	6	457	545	Jersey ..	Summer Hill Blonde ..	5	471	558
Jersey ..	Rosyth Tulip ..	6	456	499	Jersey ..	Betty of Lone Gum ..	5	471	537
Jersey ..	Banyule Molly 17th ..	6	456	552	Jersey ..	Buttercup of Elm Grove	5	470	553
*Friesian ..	Monavale Juno Paxton	6	455	595	Jersey ..	Linda 63rd of Kingsvale	5	469	512
Jersey ..	Aberdour Rancee ..	6	454	567	Jersey ..	Lucerne Vale Viscount's Noble Queen	5	468	619
Jersey ..	Banyule Tiddlewinks 3rd	6	453	514	*Friesian ..	Victoria Joyous Piebe	5	468	546
Friesian ..	Dominion Homestead Maggie	6	453	590	Jersey ..	Peggy of Park View ..	5	468	604
Jersey ..	Buttercup 3rd of Airlie	6	452	571	Jersey ..	Clarendon Eyre Belladonna	5	467	527
Jersey ..	Boorene Silver Light ..	6	451	519	Jersey ..	Tressie of Sunnyside ..	5	466	527
*Friesian ..	Halecote Opera Girl ..	5	619	762	Friesian ..	Greenvale Juno Rose 2nd	5	464	544
*Friesian ..	Tarrawarra 56 ..	5	606	642	Jersey ..	Leven Brae Gaiety ..	5	464	537
*Friesian ..	Westmere Oakwood Piebe	5	597	726	Jersey ..	Jerseyholm Bluebell 9th	5	462	539
*Friesian ..	Bainfield Topsy 13th..	5	597	635	Jersey ..	Grangelea Golden ..	5	461	551
Jersey ..	Ipomea of Swansea ..	5	588	725	Red Poll ..	Victoria War Ghost ..	5	459	521
Jersey ..	Ballara Bonnie ..	5	584	691	Friesian ..	Queen of Ashby ..	5	459	544
*Friesian ..	Echo Sylvia Bell ..	5	584	636	Jersey ..	Brucevale Northwood Madeira 2nd	5	458	597
Jersey ..	Air Girlie of The Falls	5	557	657	Jersey ..	Werribee Fancy Madeira 4th	5	458	499
*Friesian ..	Glen Elgin Jessie Segis	5	557	730	Friesian ..	Greenvale Dutch Girl	5	457	553
Jersey ..	Mornmoot Melody ..	5	542	638	Jersey ..	Butterlass of Belgonia	5	456	552
Jersey ..	Suspense (Imp.) ..	5	541	609	Jersey ..	Brucevale Fancy Starbright 3rd	5	455	562
*Friesian ..	Victoria Freemartin ..	5	539	660	Jersey ..	Mercedes Pansy of Avalon	5	454	637
*Friesian ..	Burnbank Bainfield Patch	5	537	606	Jersey ..	Clarendon Eyre Pinamore 5th	5	454	546
Jersey ..	Rarity 8th of Melrose	5	530	719	Jersey ..	Glen Valley Quick Countess 5th	5	453	508
Jersey ..	Purity of Hazeldale ..	5	524	567	Jersey ..	Princess of Tooravale	5	453	556
Jersey ..	Jessie 6th of Melrose ..	5	513	542	Friesian ..	Bolobek Janet ..	5	452	486
Jersey ..	Buttercup of The Wattles	5	507	555	Jersey ..	Staghorn Master's Clementine	5	451	524
Jersey ..	Kantara Trethella's Jenny	5	505	547					
Jersey ..	Northern Queen of Somerville	5	502	622					
Jersey ..	Lizzie Birt of The Wattles	5	501	604					
Jersey ..	Creamy 3rd of Lesterfield	5	499	544					
Friesian ..	Greenvale Mona Keys	5	496	551					
Jersey ..	Yarran of Springhurst	5	494	570					
Jersey ..	Blossom 2nd of Belgonia	5	494	558					

* Yield influenced by thrice-a-day milking.

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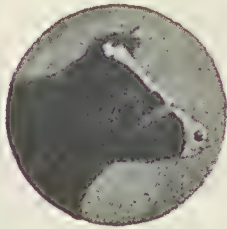
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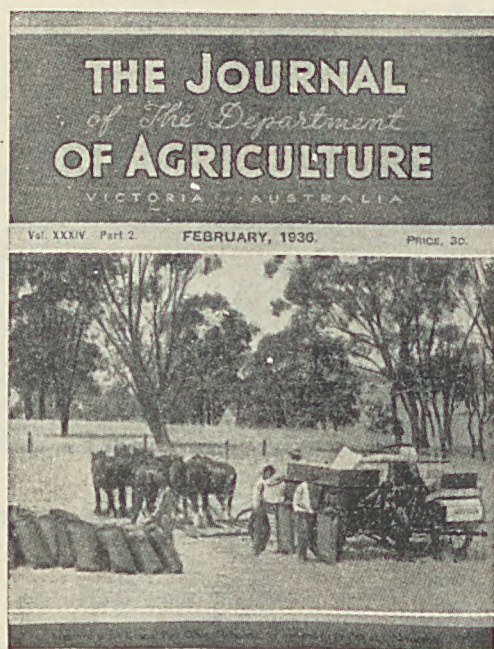
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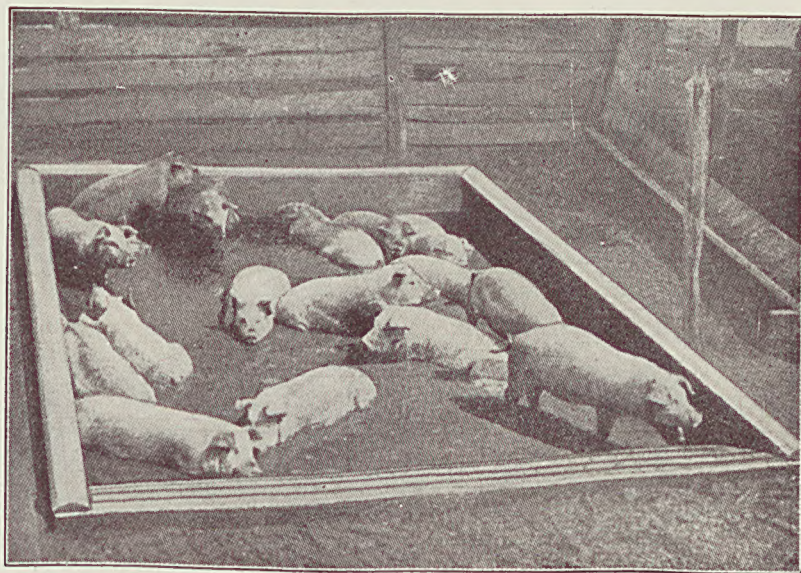
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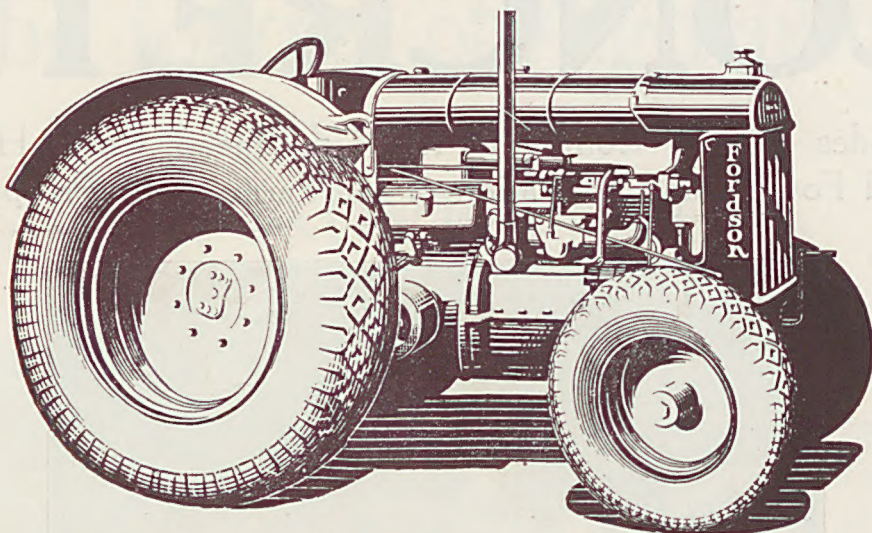
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